DOCUMENT RESUME

ED 269 345 SP 026 936

TITLE Research on Effective Schools/Classroom Processes. Research Resources Dealing with the "Effective School" Literature. Classroom Processes.
INSTITUTION Utah State Office of Education, Salt Lake City.
PUB DATE Jan 84
NOTE 224p.
PUB TYPE Information Analyses (070) -- Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC09 Plus Postage.
DESCRIPTORS Academic Achievement; *Classroom Techniques; Elementary Secondary Education; *Literature Reviews; *School Effectiveness; Teaching Methods

ABSTRACT

This report is intended as a resource for educators on the subject of effective schools literature as it pertains specifically to classroom processes. The first chapter presents some basic notions which underlie the effective schools literature and the classroom process aspects of that literature. A detailed analysis is offered in the second chapter of 11 classroom processes frequently cited in effective schools literature: (1) academic expectations; (2) academic learning time; (3) classroom management; (4) curricular congruence; (5) direct teaching/instruction; (6) monitoring and evaluative feedback; (7) homework; (8) parents' academic involvement with their children; (9) reinforcement of self-concept; (10) rewards for achievement; and (11) teacher questioning practices. Chatper 3 presents abstracts of useful publications pertaining to the effective schools-classroom process literature. In chapter 4, an article by Donald E. Mackenzie, "Research for School Improvement: An Appraisal of Some Recent Trends" is reprinted. Chapter 5 is a comprehensive collection of effective schooling practices materials produced by the Northwest Regional Laboratory. The final chapter offers a list of materials currently available at the Utah State Office of Education pertinent to the effecitve schools literature. An appendix includes a report "Indicators of Quality Schools," produced by the Colorado State Department of Education. (JD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
V.L. Hall

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

Research Resources Dealing With The "Effective Schools" Literature

- Classroom Processes -

Prepared by:

Classroom Process Research Committee
David E. Nelson, Chairman
Cy Freston
Lynn Jensen
Denise Lindberg
Nancy Livingston
Bob Olson
Ralf Riches
Dorothy Wardrop

The Utah State Office of Education
G. Leland Burningham, Superintendent of Public Instruction

January, 1984

TABLE OF CONTENTS

Page

Chapter I. Introduction and Overview 1

Chapter II. Analyses of Classroom Processes Frequently Cited In The Effective Schools Literature 11

1. Academic Expectations 13
2. Academic Learning Time 19
3. Classroom Management 27
4. Curricular Congruence 37
5. Direct Teaching/Instruction 47
6. Monitoring of Student Progress and Evaluative Feedback 55
7. Homework 61
8. Parents' Academic Involvement With Their Own Children 71
9. Reinforcement of Self-Concept 79
10. Rewards for Achievement 85
11. Teacher Questioning Practices 93

Chapter III. Abstracts of Useful Publications Pertaining to the Effective Schools/Classroom Process Literature . . . 101

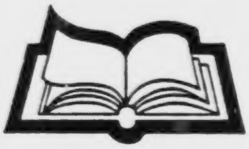
Chapter IV. Research For School Improvement: An Appraisal of Some Recent Trends. Donald E. Mackenzie, Marquette University 131

Chapter V. Effective Schooling Practices Materials Produced By The Northwest Regional Educational Laboratory, Prepared by Ron Smith - January 1983 145

1. Effective Schooling Practices, Research References 147
2. Effective Schooling Bibliography, Research References 159
3. Effective Schooling Bibliography, Resource Kit References 179

Chapter IV. List of Materials Available at the Utah State Office of Education (Currently being updated) 185

Appendix A - Indicators of Quality Schools - Colorado Department of Education, May 1982 193



CHAPTER I.

INTRODUCTION AND OVERVIEW

INTRODUCTION

During the late 1970's and early 1980's a new perspective on school effectiveness emerged. The decade of the 60's and early 70's was characterized by findings, such as those of Coleman and his colleagues, which suggested rather strongly that student background, rather than school or teaching processes, largely accounted for variations in the academic achievement of different schools. These and related findings fostered an attitude of negativism among both educators and the lay public about the potential which teachers and schools had for making a significant impact on student achievement. While many of the basic conclusions of Coleman and others have not been contradicted, there is today a new perspective on school effectiveness which offers a more positive outlook for education. This perspective has come to be known as the "effective schools" literature or research. At its core, this body of information suggests that there are factors, in addition to student background, which do make a difference in fostering student achievement. These are largely factors which were not measured in previous studies and, in addition, are factors which in many cases are "alterable", to use Benjamin Bloom's term. The significance of this is that it offers educators positive ideas about what makes schools and teaching more effective which can be translated with some "considerable effort" into actions which do, in fact, have the potential for making schools more effective in the sense of promoting higher levels of academic achievement.

Overview of the Contents of this Report

The present report is intended as a resource for educators who wish to get a rather thorough grasp of the "effective schools" literature as it pertains to classroom processes specifically. The entirety of the "effective schools" literature is broader than this and includes dimensions such as leadership factors and overall school characteristics and climate. While these factors are addressed in many of the articles reviewed or reprinted in this report, the primary focus of this document is to present and analyze those classroom processes which have been frequently cited in the effective schools literature. Another major report is available from the State Office of Education which deals specifically with the leadership dimension. The following is a brief description of the contents of this volume.

Chapter I: The Introduction and Overview. The purposes of this chapter are (1) to acquaint the reader with some basic notions which underlie the effective schools literature and, specifically, the classroom process aspects of that literature; (2) to describe briefly the contents of the entire volume; and (3) to provide a possible guide to implementation.

Chapter II presents a rather detailed analysis of eleven classroom processes which have been cited frequently in the effective schools literature. The authors would be the first to acknowledge that this is not "the list" of such processes, nor does this list represent anything like a cookbook prescription for an effective classroom. Each of the major processes described in Chapter II does, however, have at least reasonably good research foundations and, in some cases, truly excellent research supports the processes described in Chapter II. Each of the processes described in Chapter II has been profiled using an outline which provides an introduction to the process, an operational definition, identification of the key studies which have defined and demonstrated the efficacy of the process, an evaluation of the quality of that body of research, and the judged potential for implementation of the process. Also provided for each process is a summary of the research-documented benefits of implementation. It is the hope of the authors that users of this information will examine what has been presented critically and evaluate the potential of what has been described for implementation at the classroom level and other levels as appropriate.

It is obvious that in many cases the processes described could not be implemented without considerable support from building level administrators and higher levels of administration. Other processes might be directly implemented by classroom teachers with less interaction with other levels in the system.

The following matrix provides the authors' judgements as to the levels which must be involved for successful implementation of each of the eleven processes, a summary rating on the quality of research relating to the process, and the degree to which implementation of the process is related to student achievement or other outcomes. Also depicted is the level (elementary and/or secondary) at which research related to the process was performed. Hopefully, an examination of this matrix will not be a substitute for a complete examination of Chapter II, but rather a brief overview which will stimulate the reader to examine carefully the full contents of that chapter.

Chapter III of the volume presents a group of abstracts of what the authors consider to be highly useful publications pertaining to the effective schools-classroom process literature. No such set of abstracts could be complete in any sense of the word, but a library which contained the references abstracted in Chapter III would be an excellent beginning for educators who wish to gain a truly in-depth understanding of the effective schools literature. Each of the articles, books, or other documents

Classroom Process Summary Analysis Matrix

Classroom Process	Educational levels which must be involved for successful implementation of process			Quality of the research relating to the process (Excellent, Good, Fair)	Relationship of process to student achievement or other outcomes (High, Moderate, or Low)	Grade levels where research was generally accomplished
	Classroom	Building	District/ State			
1. Academic Expectations	X	X		Good	Moderate	Not Identified
2. Academic Learning Time	X	X	X	Excellent	High	Elementary
3. Classroom Management	X	X		Good	Moderate	Elementary
4. Curricular Congruence	X	X	X	Fair	Moderate	Elementary
5. Direct Teaching	X			Good	Moderate	Elementary
6. Monitoring of Student Progress and Evaluative Feedback	X			Good	Moderate	Elementary
7. Homework	X			Good	High	Elementary/ Secondary
8. Parents' Academic Involvement With Their Own Children	X			Fair	Low	Not Identified
9. Reinforcement of Self-Concept	X			Fair	Moderate	Elementary/ Secondary
10. Rewards for Achievement	X	X		Good	Moderate	Elementary/ Secondary
11. Teacher Questioning Practices	X			Good	Moderate	Elementary/ Secondary

presented in Chapter III has (hopefully) been described in enough detail so the reader may make an informed judgement as to whether or not the reference is worth obtaining.

Chapter IV is a reprint of an article by Donald E. McKenzie of Marquette University which originally appeared in the April 1982 edition of Educational Researcher. The authors of the present report viewed this as one of the outstanding overviews of the school effectiveness literature and obtained permission from the American Educational Research Association to reprint this insightful piece of work.

Chapter V is an extremely comprehensive collection of effective schooling practices materials assembled by the Northwest Regional Educational Laboratory. For the user of this report who needs extensive bibliographies of both research and strategies related to the effective schools literature, this set of materials should prove invaluable.

It should be noted that several of the regional educational laboratories have rather large projects ongoing related to the effective schools literature. In addition to the Northwest Lab materials which are included in this document, efforts are underway at the Far West Laboratory, the Southwest Lab, and the Mid-continent Regional Educational Laboratory, to enumerate some of the more comprehensive projects.

Chapter VI is a list of materials currently available at the Utah State Office of Education pertinent to the effective schools literature. Examination copies of each entry on the list are available in the Community Education Section. This should be another helpful resource for users of this report who wish to examine materials before purchasing or otherwise obtaining them.

Using this Document

As indicated above, the basic purpose of this compendium is to provide a resource to educators which brings together under one cover many useful products pertinent to the effective schools literature. It is intended that the document might provide the basis for inservice activities which have the objective of acquainting teachers and administrative staff with pertinent aspects of the effective schools literature. Hence, the document might serve as the basis for a series for inservice training sessions at the school or district level in which participants would study, discuss, and formulate implementation plans for those processes viewed as pertinent for a particular school or district. A specific strategy for using this document might well be the formulation of a School Improvement Team consisting of the entire staff of an elementary school, for example. The resources in this report could provide the basis for systematic school improvement by using something like the following procedure:

(1) Convene the School Improvement Team.

(2) Agree on a statement of purpose related to a process of school improvement.

(3) Review Chapter 1 and 2 of this report.

(4) Carry out a school assessment procedure using an instrument such as the "Indicators of Quality Schools" developed by the Colorado Department of Education and included as Appendix A to this report.

(5) Based on an assessment of specific classroom processes or other factors in the effective school research which should be stressed, design a plan including specific objectives to implement identified processes.

(6) Evaluate implementation of processes.

(7) Monitor student performance and other characteristics over time as specific strategies are implemented.

(8) Periodically re-assess progress and select new areas for implementation or focus.

This is only one of many possible strategies for using the information in this volume, but a significant amount of research suggests that change which is instigated and implemented at the school level as described above, tends to have great impact and endure.

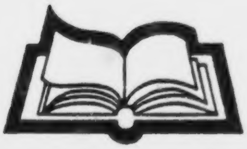
It should also be stressed that each of the elements which make up an "effective school" or an "effective classroom" are not necessarily beneficial if implemented in isolation from other elements. It is the combination of such elements in a total instructional system which tends to promote school or classroom effectiveness.

A Caveat Pertinent to the "Effective Schools" Literature.

Readers of this report will note, as they examine the analyses of classroom process presented in Chapter II, that much of the research which has established these areas is less than ideal. Specifically, "effectiveness" is most often defined based on performance on standardized achievement tests and studies are often limited to the elementary levels. Further, methodological weaknesses are obvious in all but very few of the studies which have established these processes. Perky and Smith (1982) make the point directly:

> A literature on school effectiveness has emerged that challenges the assumption that differences among schools have little effect on student academic achievement. . . . we find it is weak in many respects, most notably in its tendency to present narrow, common, often simplistic common recipes for school improvement derived from non-experimental data. Theory and common sense, however, do support many of the findings of the school effectiveness research. [pg. 427]

Probably the most useful context in which to place this body of information is that it is a set of promising findings which lacks complete validation. Education is not at the point, at this moment, where final validation will be produced soon, nor are front-line educators at the point where we can afford to wait. There is certainly a risk in adopting any strategy with the assumption that it is going to be completely effective in a given setting. There may be a greater risk in failing to take reasonably good research evidence and "common sense" ideas and implement pertinent strategies in a sensible way. The research and evaluation process which will promote a greater understanding of this area should certainly continue at an accelerated rate.



CHAPTER II.

ANALYSES OF CLASSROOM PROCESSES FREQUENTLY CITED IN THE EFFECTIVE SCHOOLS LITERATURE

1. ACADEMIC EXPECTATIONS
2. ACADEMIC LEARNING TIME
3. CLASSROOM MANAGEMENT
4. CURRICULAR CONGRUENCE
5. DIRECT TEACHING/INSTRUCTION
6. MONITORING OF STUDENT PROGRESS AND EVALUATIVE FEEDBACK
7. HOMEWORK
8. PARENTS' ACADEMIC INVOLVEMENT WITH THEIR OWN CHILDREN
9. REINFORCEMENT OF SELF-CONCEPT
10. REWARDS FOR ACHIEVEMENT
11. TEACHER QUESTIONING PRACTICES

1. ACADEMIC EXPECTATIONS

Introduction

Much of the research literature related to the "effective schools" has shown a high degree of agreement on the impacts of "expectations" upon student performance. There are essentially four categories of research findings generally subsumed under the term "expectations." First is the expectations held by teachers regarding their students' ability to achieve academically. Second is the teacher's expectations regarding student behavior and discipline. Third is the expectations which exist as a manifestation of an entire school's climate, and related to the "shared beliefs" of all the staff. Fourth is the expectations/beliefs students hold for themselves with respect to academic achievement, behavior and self-esteem. This analysis focuses primarily upon the first of the categories described above.

Operational Definition

The following elements [drawn from work done by the Colorado Department of Education (1982) and Edmonds (1979)] will, for the present purposes be considered as the minimal elements in an operational definition of this variable:

- Teachers' expectations that a high proportion of their students will do well on tests used in the district, and on national standardized achievement tests.
- Teachers' expectations of students include clear goals for student achievement.
- Teachers' expectations include students being instructed in an atmosphere of confidence that they can and will succeed.
- Teachers' expectations that students will be able to master minimum competencies for their grade level.

Identification of Key Studies Relating to the Process

Although influences on student performance are multiple and complex, a synthesis of the available research literature leads to the conclusion that teacher expectations often do play a role in student achievement. The following studies highlight some of the more pertinent findings in this area:

- Clark, (1963) reported that ghetto children might be victims of low teacher expectations which become self-fulfilling prophecies.

- Rosenthal and Jacobson (1968) in an early and much debated study, (Pygmalion in the Classroom) experimentally manipulated teacher expectations and then assessed their effects upon the IQ scores of students. Study findings indicated significant gains in total IQ for those students for whom high expectations had been experimentally set.

- Rosenthal (1976), in a comprehensive analysis of studies (over 300) in the area of expectations, reported that 37% of the studies reviewed reported significant results in a direction confirming an expectancy influence on subject behavior. When the studies were restricted to classroom interaction (teacher-learner), the findings were close to the same percentage (38%).

- Crano and Mellon (1978) reported that teacher expectations influenced childrens' achievement to an extent appreciably exceeding that to which childrens' performance impinged on teacher attitudes. This was especially true for social expectations, although it held for academic ones as well. While these findings have been debated, it seems fair to conclude that at a minimum, there appears to exist a cyclical process of mutual reinforcement between student achievement and teacher expectations.

- Cooper (1979) uses Rosenthal's four-factor typology to examine the ways in which teacher expectations may influence both teacher and student behavior. Examining the first of the four factors, CLIMATE, Cooper indicates that teachers appear to create a warmer social-emotional atmosphere for students perceived to be "brighter." For example, "bright" kids get more smiles and more positive non-verbal behaviors than students perceived by teachers to be "less bright." In discussing the second factor, INPUT, Cooper suggests that teachers' verbal input to students is dependent upon performance expectations. "Slow" students are given fewer opportunities to learn new materials and are given less difficult materials with which to work. Thus, both the quantity and the quality of teacher input to students are associated with teacher expectations of their students. The third factor, OUTPUT, is defined as the frequency with which academic interactions take place between the teacher and the student and the teachers' insistence in pursuing such interactions. According to the literature reviewed by Cooper, teachers persist longer with students for whom they have high expectations than with other students. Even after a "high" student has failed to answer a question, the teacher will be more likely to offer additional clues, repetitions, and rephrasings than with a "low" expectation student. The fourth factor, FEEDBACK, concerns the use of teacher praise and criticism as an academic exchange. It has been found that teachers praise high expectation students more, and proportionately more per correct response. Conversely, "lows" are criticized more, and proportionately more per incorrect response.

Brophy and Good (1974) and Dusek (1975) both concluded that only a very limited amount of evidence exists showing that manipulated expectations bias student learning. However, a variety of studies do show that naturally-formed teacher expectations do relate to student achievement. Cooper (1979) in his review of the literature, summarizes the existing information on naturally-formed teacher expectations by saying that:

> ". . . such expectations serve to sustain the pre-existing achievement variations among students . . . It is probable that expectations play a role in translating differences in student potential into differences in actual achievement. Thus, it is likely to lead to heightened contrast in achievement between students . . . It seems best to conclude that expectations influence performance, but they likely sustain it at pre-existing levels, or allow latent differences in performance to emerge rather than radically altering [performance] . . ." [p. 392]

Nevertheless, the fact that the expectancy effect seems to operate to sustain (rather than to radically alter) performance does not diminish the importance of this effect since, as Cooper points out, "even the maintenance of below average performance through teacher expectation effects ought to be the focus of societal concern." [p. 393]

Additional research findings, as reported in Brookover, Beamer, Efthim, Hathaway, Lezotte, Miller, Passalacqua, and Tornatzky, (1982) are summarized as follows:

> Lowered academic expectations are associated with the items as described below:
>
> 1. Sex--lower expectations for elementary boys and for older girls. This is a function of beliefs about boys' slower maturation and sex role discrimination for older girls;
> 2. SES--lower expectations for lower SES (including level of parental education, types of jobs held, place of residence, etc);
> 3. Race--lower expectations for minority status;
> 4. Test scores, permanent records--belief in "fixed ability" precludes possibility of improvement and higher expectations;
> 5. Negative comments about students--lounge talk, other teachers' or principal's evaluation result in lower expectations;

6. Type of school--rural, inner city, or suburban--the first two are associated with lower expectations;

7. Appearance--lower expectations associated with clothes or grooming that are out of style, cheaper material, etc.

8. Oral language patterns--negative cues from any non-standard English result in lower expectations;

9. Neatness--lower expectations associated with general disorganization, poor handwriting, etc.;

10. Halo effect--tendency to label a child's overall ability based on one characteristic (e.g., poor behavior becomes the basis of overall negative evaluation);

11. Readiness--negative effects of assuming that maturation rates or prior lack of knowledge or experience are unchanging phenomena, thus precluding improvement;

12. Seating position--lower expectations for sides and back of classroom;

13. Socialization by experienced teachers--tendency to stress limitations of students for new teachers;

14. Student behavior--lower academic expectations for students with poor behavior;

15. Teacher training institutions--perpetuation of myths and ideologies of individual limitations of students results in lower expectations;

16. Teacher education textbooks--same as #15 above.

17. Tracking or grouping--labeling effects and a tendency to accentuate differences between students result in lower expectations.

For additional information on the literature on expectations, the following "reviews of studies" are recommended: Brophy and Good (1974); Persell (1977).

Evaluation of the Quality of Research Dealing With the Process

While certain studies have been attacked on methodological grounds (Rosenthal and Jacobson, 1968), replications of the basic findings, (in a number of other studies) have led one reviewer to conclude that a substantial amount of convergent validity exists for this process in that expectation effects occur repeatedly, predictively, and do not appear to be tied to specific instruments used to measure them (Cooper, 1979).

Judged Potential for Classroom Implementation Without Special Resources

Although the findings reported in the literature appear to be readily understandable, implementation may not follow easily because as Brookover, et al, (1982) points out, many of the "signals" utilized by teachers in developing expectations largely exist outside their conscious range of awareness. Therefore, while Brookover, et al, suggests at least one potential activity which may be readily implemented with limited outside resources (i.e., the video or audio taping--by the teacher--of an hour or two of classroom interaction), it is this reviewer's judgement that at a minimum, an outside observer may be helpful in facilitating the awareness of biases/behaviors which may be operating outside the teacher's awareness field, and therefore not easily accessible and modifiable.

Special Resources Required to Implement the Process

1. Inservice on bias-producing "cues" and student impacts of such biases.
2. Equipment to facilitate recording of classroom interactions for later review--video tape would be ideal.
3. Sensitive and knowledgeable observer/facilitator to debrief tape with teacher.
4. Periodic self/peer assessment opportunities.

Summary of Research-Documented Benefits of Implementation of the Process

Both the national research literature and results obtained in the Utah *Statewide Educational Assessments* (USOE 1978, 1981) indicate a moderate positive correlation between high teacher expectations of student performance and actual achievement by students. Although a specific cause and effect relationship has not been documented, the available data rather uniformly supports the association between teachers' expectations and student performance. Brookover (1982) argues that the relationship may be a result of a "self-fulfilling" prophecy which operates either to the benefit or detriment of student achievement depending on the level of teacher expectations.

REFERENCES

Brookover, W., Beady, C., Flood, P., Schweitzer, J., and Wisenbaker, J. *School social systems and student achievement: Schools can make a difference*. South Hadley, Massachusetts: J. F. Bergin Co., distributed by Praeger Publishers, New York, 1979. Annotated in Introduction.

Brookover, W., Beamer, L., Efthim, H., Hathaway, D., Lezotte, L., Miller, S., Passalacqua, J., & Tornatzky, L., *Creating effective schools: An inservice program for enhancing school learning climate and achievement*. Holmes Beach, Florida: Learning Publications, 1982.

Brophy, J., Good, T. *Teacher-student relationships: Causes and sequences*. New York: Holt, Rinehard, and Winston, 1974.

Clark, K. *Educational stimulation of racially disadvantaged children*. In A.H. Passow's (ed.), Education in depressed areas. New York: Teachers College, Columbia University, 1963.

Colorado Department of Education. *Indicators of quality schools*. Denver, Colorado: School Improvement and Leadership Services Unit, 1982.

Cooper, H. Pygmalion grows up: A model for teacher expectation communication and performance influence. *Review of Educational Research*, 1979, *49*, (3), 389-410.

Crano, W., and Mellon, P. Causal influences of teacher's expectations on children's academic performance: A cross-lagged panel analysis. *Journal of Education Psychology*, 1978, 70(1), 39-49.

Dusek, J. Do teachers bias children's learning? *Review of Educational Research*, 1975, 45 (4), 661-684.

Edmonds, R. R. Effective schools for the urban poor. *Educational Leadership*, 1979, *37*, 15-27.

Persell, C. *Education and inequality: The roots and results of stratification in America's schools*. New York: The Free Press, 1977.

Rist, R. Student social class and teacher expectations. The self-fulfilling prophecy in ghetto education. *Harvard Educational Review*, 1970, *40*, 411-451.

Rosenthal, R., and Jacobson, L. *Pygmalion in the classroom: Teacher expectations and pupil's intellectual development*. New York: Holt, Rinehart and Winston, 1968.

Rosenthal, R. *Experimenter effects in behaviors research*. (2nd ed.) New York: Irvington, 1976.

Utah State Office of Education. *Statewide educational assessment: General report*. Salt Lake City, Utah: Author, 1978.

Utah State Office of Education. *Statewide educational assessment: General report*. Salt Lake City, Utah: Author, 1981.

2. ACADEMIC LEARNING TIME

Introduction

The analysis of time as an important instructional consideration is a relatively well established notion both in the research literature and from a common sense point of view. Beginning with the work of Carroll (1963), Bloom (1976), and Wiley and Harnischfeger (1974), an important theoretical foundation was provided for a more exacting analysis of learning time as it might relate to student achievement.

This more intensive study came about as a central element in what has come to be known as the Beginning Teacher Evaluation Study (BTES). This was a six-year study which focused on key instructional characteristics which were related to the academic performance of second and fifth graders in reading and mathematics (Denham and Lieberman, 1980). The BTES research provides a rather clear explanation of how learning time should be analyzed and the relationship of learning time to academic performance in the grade levels noted.

Operational Definition

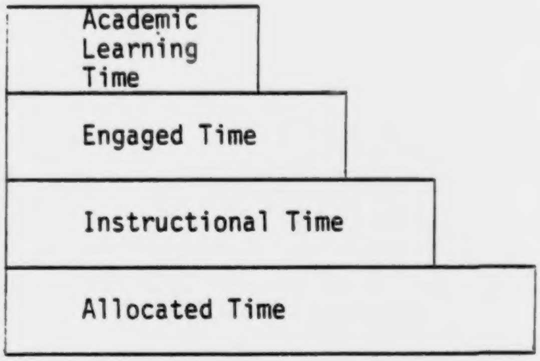
Academic Learning Time (ALT) is the amount of time that a student spends actually engaged in a learning task which the student can perform with a high degree of success.

It is useful to distinguish between Academic Learning Time, which includes both the notion of a student being engaged in a task and a high rate of success, to other broader conceptualizations of learning time. Allocated time is simply the amount of time which is designated by a school or teacher for a particular course or learning activity. Engaged time is the amount of time a student is actively involved with the learning task.

Academic Learning Time adds to these concepts the notion of the success rate of the student. Success rate deals with the difficulty for an individual student of a particular learning task. Thus, the concept of Academic Learning Time is ". . . the amount of time students are actually engaged in, and experiencing success in, learning. Success, in these researchers' view is more likely when learning tasks are at appropriate levels of difficulty for students." (AASA, 1982)

The following diagram illustrates the relationship of allocated time, instructional time, engaged time, and academic learning time. What the diagram illustrates is that, while one hour may be allocated to teach mathematics in a particular class, perhaps only 45 minutes of this is used for actual instruction, and that a given student may be actively involved with the learning task for 30 minutes. If we look at the amount of the engaged time where the student is experiencing a high rate of success, this may be only 20 minutes. It is that 20 minutes which is defined as Academic Learning Time.

AN ANALYSIS OF LEARNING TIME[1]



[1] After Spady, W.G. in Time on Task, AASA, 1982.

Identification of Key Studies Relating to the Process

As indicated previously, the work which set the stage for what is presently known about Academic Learning Time was accomplished by Carroll (1963), Wiley, Harnischfeger (1974), and Bloom (1976). The most comprehensive discussion of both conceptual and research issues on Academic Learning Time is a volume, Time to Learn, edited by Denham and Lieberman (1980). This work is a very complete description of the major facets of the Beginning Teacher Evaluation Study as that effort related to the evolution of the Academic Learning Time concept. Indirect support for the Academic Learning Time notion is offered by Rutter (1979). The latter is especially important because it deals with the influence of learning time in secondary schools.

Two rather practical and useful publications which focus on Academic Learning Time are Time on Task (AASA, 1982), and Creating Effective Schools by Wilbur Brookover and his associates (1982). These two documents offer educators some practical advice and strategies for implementing programs which enhance academic learning time of students.

Evaluation of the Quality of Research Dealing With the Process

The most important body of evidence supporting the relationship of Academic Learning Time to academic achievement is the Beginning Teacher Evaluation Study (BTES). While this effort was one of the most extensive pieces of educational research in recent years, the evidence provided was still largely not of a true experimental nature. That is, the methodology used in the study does not allow the conclusion that increased Academic Learning Time causes higher academic achievement. That conclusion must still await true experiments accomplished with rigorous designs. It should be noted, however, that the largely correlational evidence which does exist is consistent across different individual pieces of research and over time -- a fact which does lend credibility to the relationships reported in studies such as the Beginning Teacher Evaluation Study.

Judged Potential for Classroom Implementation Without Special Resources

Clearly teachers, and more realistically an entire school, can examine the time concepts discussed in this paper and implement many of the ideas described without special resources. Muir (1980) describes her perception of this area from the standpoint of an individual teacher who has implemented instructional changes in her own classroom based on the Academic Learning Time notion.

> "I view ALT and the BTES as tools that suggest practices to be used by teachers in an individual manner to further the art of teaching elementary children. In no way do I view the study or findings as a prescription of what a teacher ought to be doing in a classroom. If an entire faculty could view the issues raised by the study and application of ALT, and agree to experiment within their own classrooms using their own styles, the experience would be productive for education.
>
> The implications of ALT indicate some necessary self-evaluations that must be made by teachers. Hard questions must be honestly answered if a teacher is to experience success with ALT. Can the teacher accurately diagnose individual needs and levels of skills? Is the teacher's skill at prescribing learning activities sufficient to ensure an orderly presentation of skills or challenges to the students? Is it possible to monitor the students on a daily basis? What kinds of changes and presentation would be necessary if the concepts were to be taught to a large rather than a small group? How much time is available to interact with individual students on a daily basis? How much feedback can be supplied to the students and how fast?" [pps. 209-210]

Special Resources Required to Implement the Process

A large scale, systematic implementation of the Academic Learning Time findings from the BTES would entail the involvement of a total school faculty and the rather careful scrutiny of the categories of time discussed in this paper. The use of observers employing specially developed instruments was a key aspect of the Beginning Teacher Evaluation Study. A simplified approach to implementing an observational procedure using either teachers or principals as observers is described in the volume Time on Task. This volume also describes other specific activities which relate to enhancing Academic Learning Time and provides some simple forms to expedite the time analysis.

Summary of Research Documented Benefits of Implementation of the Process

Fisher, Berliner, Filby, Marliave, Cahen, and Dishaw (1980) have described the major findings of the Beginning Teacher Evaluation Study in terms of relationships observed between Academic Learning Time and student achievement. The following are some of their key observations:

> ° The amount of time that teachers allocate to instruction in a particular curriculum content area is positively associated with student learning in that content area.
>
> ° The proportion of allocated time that students are engaged is positively associated with learning.
>
> ° The proportion of time that reading or mathematics tasks are performed with high success is positively associated with student learning.
>
> ° The proportion of time that reading or mathematics tasks are performed with low success in negatively associated with student learning.
>
> ° Increases in Academic Learning Time are not associated with more negative attitudes toward mathematics, reading, or school. [pps. 15 - 18]

Again, it should be noted that these generalizations are limited to second and fifth grade mathematics and reading. While extention of such findings beyond these areas seems highly plausible, this matter is not firmly established. It should also be noted that Rutter (1979) has established similar relationships for secondary students between time-related variables such as homework accomplished by secondary students and academic performance. While the latter is not really parallel to the ALT findings, this limited secondary finding is still encouraging.

REFERENCES

American Association of School Administrators, Time on Task. Arlington, VA. Author, 1982.

Bloom, B. S. Time and learning. American Psychologist, 1974, 29, 682-688.

Carroll, J. B. A model of school learning. Teachers College Record, 1963, 64, 723-733.

Denham, C., and Lieberman, A. (Eds.) Time to Learn: A review of the Beginning Teacher Evaluation Study. National Institute of Education, 1980.

Fisher, F. W., Berliner, D. C., Filby, N. N., Marliave, R., Cahen, L. S., and Dishaw, M. M. Teaching behaviors, academic learning time, and student achievement. In Denham, C., and Lieberman, A. (Eds.) Time to Learn. National Institute of Education, 1980.

Harnischfeger, A., and Wiley, D. The teaching-learning process in elementary schools: A synoptic view. Curriculum Inquiry, 1976, 6, 5-43.

Muir, R. A teacher implements instructional changes using the BTES framework. In Denham, C., and Lieberman, A. (Eds.) Time to Learn, National Institute of Education, 1980.

Rutter, M., Maughan, B., Mortimore, P., Ouston, J., with Smith, A. Fifteen thousand hours: Secondary schools with their effects on children. Cambridge, Mass.: Harvard University Press, 1979.

3. CLASSROOM MANAGEMENT

Introduction

Teacher actions are crucial to learning in a quality school. How a teacher manages students and resources, sets standards, establishes routines, and organizes for instruction is an important variable identified again and again in the literature (Hutchins, 1983). Indeed, what teachers do really does make a difference--good instructors are good managers. However, there is some disagreement as to exactly what constitutes "good" management skills.

Educators and the general public have continually expressed concern over the order and discipline in the schools, and especially in the last decade or so. For thirteen of the past fourteen years, lack of discipline was the major problem identified in the annual Gallop Poll of the Public's Attitude Toward the Public Schools (Gallup, 1982).

Obviously, the ultimate goal of discipline is to make learning possible--to eventually replace the extrinsic control system by developing the student's intrinsic self-discipline (Ornstein and Levine, 1981). The immediate effect of a well-organized classroom is that it reduces the time spent on management of behavior and increases time available for appropriate academic tasks (Rosenshine, 1983).

Common sense suggests that students cannot learn in an environment that is noisy, distracting, or threatening. Now many studies have concluded that there are some basic principles related to maintaining an effective social-instructional context for classroom learning--principles that many daily working educators have intuitively known for some time (Mackenzie, 1983).

Operational Definition

Research on effective schools consistently recognizes the impact of the classroom environment on student/teacher interaction patterns and students' academic achievement. The majority of studies suggest that maintaining an orderly and psychologically supportive classroom is the responsibility of the teacher (Medley, 1979). However, there are some dimensions noted in the findings that are imposed upon the teacher and over which he or she has little control. Admittedly, these are few, but must be acknowledged.

Therefore, for the purpose of this paper, factors that influence classroom management will be considered under two general headings: (1) internally controlled conditions, and (2) externally controlled conditions.

1. Internally controlled conditions are defined as the choices a teacher has and the decisions he or she makes regarding the management of student behavior, organization of materials, and procedures for implementing instruction, e.g., the strategies he or she uses for establishing rules for acceptable behavior, administering the consequences for rule infraction, pacing instruction, preventing disruptions, eliciting responses, and performing other managerial tasks (Weber, et al, 1983).
2. Externally controlled conditions are defined as the state of the physical plant, availability of curriculum materials, the number of students assigned to a particular classroom, the frequency of administratively imposed interruptions, school or district policies affecting grouping or tracking of students, and other similar conditions (Ornstein and Levine, 1981).

It should be noted the the word "effective" is used broadly in the literature to describe teachers and schools which, according to a variety of criteria, have had notable success in comparison to like schools and/or teachers. However, few of the studies have verified with confidence the connection between teacher behavior and the classroom environment characteristics that appear to have a positive influence on learning and actual student achievement gains (Brophy, 1979; Weber, et al, 1983). Therefore, for the purpose of this paper, unless otherwise noted, the term "effective" will refer to promising rather than proven practices.

Identification of Key Studies Relating to the Process

Much research on teacher effectiveness deals with differing approaches to classroom management; but many of the theories and findings are contradictory. Because so many studies concentrated on a specific setting or supported a particular philosophical viewpoint (humanistic versus behavioral management), only those that review classroom management in a general and comprehensive way can be considered as key studies in this report. Kounin (1970) probably set the stage for the recent investigations, followed by Brophy and a variety of colleagues (1970, 1974, 1979). Medley's (1979) examination of almost 300 studies and his subsequent conclusions must be acknowledged, as well as the research conducted by Evertson (1980, 1982), Rosenshine (1979, 1983), and Kash and Borich (1982). Although it concentrates on teacher-controlling mechanisms rather than any system-wide or external factors of management, by far the most comprehensive review of the literature is that published by Weber, et al (1983).

Evaluation of the Quality of the Research With the Process

As was stated above, teacher management styles and classroom organization have been identified as a key classroom variable in the effective schools literature. Although discipline has been ranked as a top concern of educators and the general public, how to cope with the problem elicits many theories and interpretations but few proven conclusions. Indeed, studies exist to counter almost any specific recommendation (Ornstein and Levine, 1981).

In addition, much of the current research has been conducted in conjunction with mastery of basic skills and it is doubtful whether many of the findings will generalize across other subjects and higher grade levels.

Mackenzie warns against the hazards of drawing cause-and-effect inferences from correlational data (Mackenzie, 1983).

Another delimiting factor involved in the review of the literature is that almost all studies have concentrated on teacher behavior and not considered the behavioral patterns of the students. Also, the interaction between the physical environment and programs for students deserves additional study.

Yet, in summary, it seems safe to say that while no single strategy nor management style is effective with all students in all classrooms, there is general consensus that the following characteristics of teacher behavior and classroom management are evident in effective instruction.

Judged Potential For Classroom Implementation Without Special Resources

Below are listed three sets of teacher behaviors crucial to learning in the classroom. The behaviors are categorized according to the prevention of and response to disruptive behavior as well as those necessary for maintaining orderly control.

1. Actions related to preventing disruptions in the classroom are:

    (a) Teachers clearly explain rules, consequences, and procedures on the first day of school. Students know what is expected of them.

    (b) On the first day, teachers establish a system for students to follow in handing in assignments, taking tests, and assuming other academic responsibilities.

    (c) Teachers begin classes on time.

    (d) Teachers maintain a good pace of instruction, with a high level of interactive, on-task activities such as discussion, review, and frequent feedback.

    (e) Teachers program activities, especially seatwork, that are varied, relevant, and challenging.

    (f) Teachers communicate that they know what is going on, and can attend to two issues at the same time, if necessary.

2. Actions related to handling disruptions in the classroom:

   (a) Teachers monitor students and follow through with consequences for those who did not comply.

   (b) Teachers use signal interference such as eye contact, hand gestures, mild reprimands, and other teacher behavior that reduce inattention.

   (c) Teachers use proximity control, standing near the disruptive student while communicating they are concerned but not upset.

   (d) Teachers restructure the lesson when it is not working well.

   (e) Teachers remove seductive materials such as pocket toys, food items, and other material that distract student attention.

   (f) Teachers provide for tension release with a bit of humor, expressions of good will that reduces anxiety of class members or tenseness of situation.

   (g) Teachers use "antiseptic" removal of disruptive student by asking them to do something such as running an errand, writing on the board, or other similar task.

3. Actions related to maintaining an orderly classroom.

   (a) Teachers follow a routine in their expectations, schedules, and assignments and are consistent in their rules and discipline.

   (b) Teachers are in charge of the classroom at all times.

   (c) Teachers have a systematic method of asking questions and getting responses to assure equal opportunity for all students.

   (d) Teachers spend less than 15% of class time for handling routine tasks and devote the rest of the class time to academic instruction.

   (e) Teachers support each other and gain cooperation from parents and students regarding the school's norms for student behavior.

   (f) Teachers recognize factors in management and discipline that negatively influence student learning such as:

      (1) roughness in handling disruptions, like "losing your cool";

      (2) using peer pressure for controlling a disruptive individual;

(3) belittling of pupils, regardless of grade level or achievement;

(4) pupil-to-pupil tutoring or unsupervised seatwork in early grades;

(5) administrative interruptions such as announcements on the inter-com, attendance forms, schedule changes, etc.;

(6) praising students without stating the reason for the praise;

(7) having lower expectations for slower students such as over-correcting wrong responses, calling on them less frequently, allowing them to be unprepared, or seating them further away from the teacher.

Some factors that are less under the option of the teacher to control yet have implications for classroom impact are as follows:

1. In effective schools, small group instruction for reading and math appears to correlate positively with student achievement in the primary grades and for basic skill mastery.
2. Large group instruction correlates with higher student achievement scores across all subject matter in the secondary schools.
3. Tracking of students is negatively correlated with student achievement in the secondary schools.
4. Although 75% of compensatory education pupils are pulled out of the regular classroom for instruction, there is a consistent negative relationship between time pupils spend in pullout programs and their reading and math achievement.
5. Except for providing some basic level of resources, the amount of money, number of teachers, newness of the building, availability of special equipment or programs have little relationship with a school's quality. However, there is a positive building tone, with evidence of general upkeep and respect for property.
6. The issue of class size and its relationship to achievement is still controversial. While classes of 20 pupils may make better progress, studies suggest that if teachers teach smaller classes in the same manner as classes of 40, there will be no difference in gains. There is support for the premise that within the mid-range of about 25-34 pupils, class size seems to have little impact on the academic achievement of most pupils in most subjects above primary grades.

7. A reduction in the number of administratively imposed interruptions during the class period increases academic learning time.

The literature is full of lists of "tried and true" remedies for curing classroom management ills, but many are bits of advice not applicable except in particular situations. However, Weber, et al, summarized 62 major managerial strategies, weighed the empirical evidence, and listed the following practices as strongly advocated or condemned.

1. Strongly advocated:
    - (a) establishing classroom routines;
    - (b) fostering reasonable, clearly understood expectations;
    - (c) developing cooperation and group cohesiveness;
    - (d) promoting productive group norms;
    - (e) employing classroom meetings, role playing, and shared leadership;
    - (f) utilizing mild desists (gentle reprimand directed toward a specific student behavior) when disruption begins;
    - (g) managing behavior through such contingencies as token economy systems, contracting, praise and encouragement, cues, prompts, modeling, and administering negative punishment or using time-out when appropriate.
2. Strongly condemned:
    - (a) utilizing harsh reprimands;
    - (b) administering corporal punishment.

Special Resources Required To Implement The Process

Of all the areas representing effective schooling practices, teacher behaviors related to the way they organize and manage the classroom appear to be more highly personalized, less institutionally or educationally acquired, and most difficult to change. (Hutchins, 1983)

True, the literature concludes no special programs, new materials, nor additional personnel are required to implement the advocated strategies, and many agree with Mackenzie's (1983) statement that improving staff through inservice makes more of a difference than improving the physical plant. Yet the latter is far easier because of the human factor. Even if teachers agree philosophically with the recommended practices, their organizational and management styles are far less vulnerable to training than their lesson presentations. (Hutchins, 1983)

A discrepancy between what teachers say they believe is good instruction and what they describe as happening in their classrooms is often noted when one observes that teacher in action (Osborn, 1983). Whether consciously or not, teachers simply don't always teach how they preach. McCormick (1979) found there was no relationship between expressed intentions and what occurred. And sadly lacking in the literature is how we get from here to there.

Does such pessimism mean the research is useless? Not necessarily so. For one thing, the consensus in many of the conclusions is refreshing; the recommendations make common sense. They should be, and could be implemented in classrooms and schools across the nation--but will they be?

While the capacity for improving classroom management lies within the domain of that teacher and that local school, the identification of and conclusions about effective methods appear to deal with teacher behaviors that are already in place; not with the task of changing the behavior. Even if one agreed, as perhaps they logically should, it is still possible to reject the data psychologically and emotionally; therefore inhibiting real change.

In spite of history, some of the programs in schools and districts appear to be changing teacher behavior such as Clinical Supervision (Reeves, 1978) and Assertive Discipline (Cantor, 1979). In the future, more documentation of successful programs would help greatly.

REFERENCES

Brophy, J. E. "Teacher behavior and student learning." *Educational Leadership*, October 1979, 33-35.

Cantor, L. *Assertive discipline: Competency based resource materials and guidelines*. Los Angeles: Cantor and Associates, 1979.

Colorado Department of Education. *Indicators of Quality Schools*

Evertson, C. M. et al. *Improving classroom management: An experimental study in elementary classrooms*. Austin, Texas: Research and Developmment Center for Teacher Education, University of Texas, 1981.

Gallup, George. "Poll of the public's attitude toward the public schools." *Phi Delta Kappan*, September 1982.

Good, T. L., and Grouws, D. A. "Teaching and mathematics learning." *Educational Leadership*, October, 1979.

Hutchins, C. L. *Quality schools: A review of the research on effective schools and effective teaching*. Kansas City, Missouri: Mid-continent Regional Educational Laboratory, 1983.

Kash, M., and Borich, G. D. "Teacher variables that make a difference." *Improving Educational Standards and Productivity*, edited by Walberg, H. J., McCutchan Publishing Corporation, 1982, Chapter 3, 49-84.

Kounin, J. S. *Discipline and group management in the classroom*. Huntington, N.Y.: Robert E. Kreiger Publishing Company, 1977.

Mackenzie, D. E. "Research for school improvement: An appraisal of some recent trends." *Educational Researcher*, April 1983, 5-17.

Medley, D. M. *Teacher competence and teacher effectiveness: A review of process product research*. Washington, D. C.: American Association of Colleges for Teacher Education, 1979.

Osborne, J., and Mason, J. *Reading to learn. When does it begin? A survey of classroom practices, grades 2-5*. Urbana, Illinois: University of Illinois, Report #261, September 1982.

Ornstein, A. C., and Levine, D. U. "Teacher behavior research: Overview and outlook." *Phi Kelta Kappan*, April 1981.

Purkey, S. C., and Smith M. S. "Effective schools, a review." *The Elementary School Journal*, March 1983.

Reeves, C. A. "Teacher improvement through clinical supervision." *Phi Delta Kappan*, (pamphlet) 1978.

Rosenshine, B. "Teaching functions in instructional programs." The Elementary School Journal, April 1983

Weber, W. A., Crawford, J., Roff, L., and Robinson, C. Classroom management: Review of the teacher education and research literature. Educational Testing Service, Princeton, N. J.: March 1983.

4. CURRICULAR CONGRUENCE

Introduction

The growing demand for academic accountability requires that school systems "more fully and accurately determine, describe, and publicly communicate the effects of their instructional efforts" (Neidermeyer, 1979, p.1). Curriculum congruence or alignment are terms used to denote the conscious alignment of three educational elements: curriculum, instruction and assessment. Through efforts in this area, districts, schools, and classroom teachers can answer the following three questions:

- What is it we want students to know/be able to do?
- How do we best teach these (agreed upon) objectives?
- To what extent do our tests measure what students have been taught?

Through a process of curriculum alignment to achieve congruence among these key elements, professional educators should be in a stronger position to account for "what goes on" in the schools.

Operational Definition

As stated above, curricular congruence means effecting a "match" between (1) what the teacher "should" teach, (2) what the teacher does teach, and (3) what students actually learn. Specific operational steps required to achieve such a match are outlined effectively in the document entitled "Indicators of Quality Schools" developed by the Colorado Department of Education. Specific items include:

1. Learner objectives exist which are clear, valid, and sequenced.
    a. There is a written document which clearly defines specific objectives that students are expected to accomplish.
    b. The specific objectives indicate standards of acceptable performance.

    c. Teachers, students, and parents are given opportunities to provide input into the curriculum development process.
    d. Relevant knowledge, skills, and attitudes are sequenced and specified.
    e. A written curriculum development plan exists which indicates specific time lines for evaluation and revision of the curriculum.

2. There is a match between the written curriculum and assessment, i.e., the tests reflect the curriculum.
    a. Tests give administrators and teachers clear information about student achievement related to objectives.
    b. Tests have been analyzed and selected to match the school's objectives.
    c. Test items are identified which do not match curriculum objectives.
    d. Curriculum objectives not included in tests are assessed by some other means.

3. There is a match between instruction and the written curriculum.
    a. The curriculum document is easy for teachers to use in day-to-day planning for instruction.
    b. Textbooks and other materials reflect the objectives of the school.
    c. Topics actually used in instruction have been linked (mapped) to the written curriculum and objectives.
    d. The curriculum documents are actually used and the objectives taught in day-to-day instruction.

Identification of Key Studies Relating to the Process

The staff of the Southwest Regional Lab (SWRL) have, over the past few years, invested a significant amount of time in developing materials on curriculum alignment. Additionally, SWRL is implementing a major project in the Los Angeles Unified School District to examine the application of curriculum congruence. This project began with two schools in 1979. Last year 238 new schools joined the project. While preliminary data are available regarding increases in student performance as measured by a district mandated criterion-referenced test, overall impact data are not yet available. Nevertheless, a number of technical reports and professional papers related to this topic have been developed and would be useful references for those seeking additional information on this area. The following reports are available at USOE through the school effectiveness central reference file:

Aug. 1979 - Professional Paper 41: Curriculum Alignment--A Way to Make Schooling More Understandable

Dec. 1980 - Technical Report 69: Development and Verification of Instructionally Sensitive Achievement Tests.

Apr. 1981 - Technical Report 70: Methodology for Analysis of IAI District Level Data Bases.

July 1981 - Technical Report 72: Identifying Effective Schools: A case study involving Black Racially Isolated Minority Schools and Instructional Accomplishment Information Systems.

Nov. 1981 - Technical Report 73: Method For Analyzing District Level IAI Data Bases to Identify Learning Opportunity Risks.

Jan. 1982 - Technical Report 74: Using the Results of IAI Data Base Analyses to Generate Educational Program Architecture.

Apr. 1982 - Technical Report 77: Equating Instructional Accomplishment - Inventories and Standardized Achievement Tests.

Evaluation of the Quality of the Research Dealing With the Process

Although the three elements involved in curricular congruence appears common sensical, specific research on implementation and outcomes of this process is not readily available. At best, pieces of research suggestive of the effectiveness of this approach were identified in related research literature.

One of the critical issues in curricular congruence is the element of assessment. While a number of writers have aligned themselves on either side of the norm-referenced and criterion-referenced test debate, there exists firm research ground to argue that both kinds of testing serve valid educational purposes. Norm-referenced standardized tests are useful to surveying general student knowledge in comparing schools on national norms, and in discriminating between high and low scoring students. However they are, by design, not sensitive to all the curriculum objectives of a given school district and they fail to provide the kind of instruction-referenced information needed to determine specifically what should be taught and how well it's being learned (Neidermeyer, 1979). This is the province of objectives-referenced and criterion-referenced tests (CRTs) which are meant to determine the level of mastery of specifically identified knowledge and skill areas by individual students. This kind of test can be a sensitive measure of what has actually been taught to students and can be used diagnostically to develop a sequential program of instruction.

Advocates of curricular congruence argue for expansion of criterion-referenced testing and point out the inappropriateness of norm-referenced tests in assessing the effects of schooling (Neidermeyer, 1979). Supporting evidence for their position is found in the work of Armbruster, Stevens & Rosenshine (1977), Hanson & Schutz (1978) and Popham (1974). Other research has found that even when classroom texts are carefully followed and completed by all students, overlap with standardized tests is about 50% (Schwille, Porter, Belli, Floden, Freeman, Knappen, Kuhs & Schmidt, 1981). However, even when goals and objectives of instruction are delineated at the district level, Neidermeyer (1979) reports that there is generally little relationship to actual classroom activity/instruction. Support for Neidermeyer's assertion is found in the Beginning Teacher Evaluation Study (BTES) were one of the findings was that personal teacher preference greatly governed what was taught (Fisher, Filby, Marliave, Cohen, Dishaw, Moore & Berliner, 1978).

In a related vein, Edmonds and Lezotte (1982) have argued that "the ideal measure of pupil performance is locally generated, nationally validated, curricular based, criterion standardized measure of student performance." Although the string of modifiers might give one pause (and implementation may be impossible), essentially their recommendation calls for assessment instruments which are "locally generated" and "curricular-based" to insure that students are tested on what they're taught, and yet "nationally validated" to establish a consensus among districts nation-wide on a uniform set of standards of mastery for various skills. By this proposal, Edmonds & Lezotte presumably seek to integrate the best elements of norm-referenced and criterion-referenced tests.

Cohen (1981), in his discussion of the implications of Edmond's research to school systems, suggests that there is a need for curriculum objectives which are well integrated across grade levels and subject areas. Berliner (1982) concurs and further notes that unless such a process takes place, curriculum areas may be "sometimes repeated or completely missed." [p. 38]

As may be surmised by the tangential nature of this brief citation of the literature related to this topic, there appears to be little "hard" data on the actual outcomes of a carefully implemented curriculum congruence (a.k.a., alignment) process. However, there exists a fair degree of consensus that many of the most frequently employed assessment measures are not designed to provide information on what "teachers are spending time teaching... and pupils are spending time learning." [Neidermeyer, 1979, p. 2] While available data are limited, it would appear that efforts to align the curriculum represent a promising approach which need further research.

Judged Potential For Classroom Implementation Without Special Resources

Although individual teachers may initiate efforts to bring congruence between (1) their instructional materials, (2) classroom instruction/activities, and (3) the teacher-made-tests they employ, ultimately those efforts will be of limited utility if they occur independent of compatible efforts at the grade-level, school and district. Therefore, in this reviewer's judgement, there is limited potential for independent implementation.

Special Resources Required to Implement the Process

As stated above, individual teacher efforts need to be supported by grade-level, school-wide, and district-wide consensus on instructional objectives. This will require extensive conferencing and inservice time in order to generate agreed upon objectives. The literature suggests that this process would also be strengthened by including parental input into the generation of the instructional objectives (which are interrelated across grade levels and schools).

The articulation process needs to be two-fold: First teachers need to find ways to have classroom processes match the priorities of the school and the district. Second, teachers need to relate the present curricular objectives to those of the previous, and subsequent, curriculum (Berliner, 1982). Considerable time will also be required in the development of instructional materials and assessment devices which relate directly to the instructional objectives and which give clear indication of levels of mastery for specific skills. To assist in this effort, Brookover (1982) suggests that:

> "teachers at the same grade level should, whenever possible, construct common instructional materials and common tests to facilitate teaching and assessment of mastery in basic skills at grade level. This helps to assure congruence in objectives, materials and tests, and considerably reduces the workload on any one staff member." [p. 250]

Neidermeyer (1979) in his article on Curriculum Alignment (SWRL Professional Paper 41, 1979) suggests that for school districts seeking to initiate this process,

> "a reasonable way to start is to focus first on aligning assessment with existing instruction. That is, start by determining what is currently being taught and how well it is being learned." [p. 7]

According to Neidermeyer, specific options to follow in accomplishing this objective include:

(1) Use of tests that specifically accompany each instructional program or text series used in the district.

(2) District develops its own outcomes - referenced tests that match up with all of the districts various programs.

(3) District adopts outcomes - referenced achievement tests which are designed to be sensitive to and compatible with a number of instructional programs.

The resources needed for each of the three options vary widely and depend heavily upon current district capabilities regarding staff ability, time and expertise.

Summary of Research Documented Benefits of Implementation of the Process

As discussed in the earlier section on the quality of research in this area, only limited data were available to directly support this process. In the absence of clear research evidence the reader is left to speculate on the actual outcomes of implementation. The process appears to be logically grounded, intuitively appropriate, and supported by a body of related findings. At best, a carefully articulated and aligned curriculum should lead to marked student academic growth as expectations for learning are carefully and deliberately set and reinforced. At worst, adoption of this process could be time and energy consuming.

REFERENCES

Armbruster, B., Stevens, R., and Rosenshine, R. Analyzing content coverage and emphasis: A study of three curricular and two tests (Technical Report 26). Urbana, Illinois: University of Illinois, Center for the Study of Reading, March, 1977.

Berliner, D. C. The executive functions of teaching. Paper presented at the wingspread conferences on related reading research to classroom instruction to wingspread. Racine, Wisconsin: March 12-14, 1982.

Behr, G. and Bachelor, B. Identifying effective schools: A case study involving black racially isolated minority schools and instructional accomplishment information systems. Alamitos, California: SWRL Educational Research and Development, Technical Report 72, 1981.

Brookover, W. B. Effective Secondary Schools. Philadelphia, Pennsylvania: Research for Better Schools, Inc., 1981.

Cohen, M. "Effective schools: What the research says." Today's Education, April-May, 1981.

Colorado Department of Education. Indicators of quality schools. Denver, Colorado: School Improvement and Leadership Services Unit, 1982.

Edmonds, R., and Lezotte, L. The correlates of school effectiveness. Paper presented January 27, 1982.

Fisher, C., Filby, N., Marliave, R., Cahen, L., Dishaw, M., Moore, J., and Berliner, D. Teaching behaviors, academic learning time, and student achievement: Final report of Phase III-B, Beginning Teacher Evaluation Study. Technical Report V-1. San Francisco, California: Far West Laboratory for Educational Research and Development, 1978.

Hanson, R. A., Behr, G. E., Meguro, B. T., and Bailey, J. D. Development and verification of instructionally sensitive achievement tests. Alamitos, California: SWRL Educational Research and Development, Technical Report 69, 1980.

Hanson, R., and Schutz, R. A new look at schooling effects from programmatic research and development. Making Change Happen (edited by D. Mann). New York, New York: Teachers College Press, 1978.

Milazzo, P. A. and Buchanan, A. D. Equating instructional accomplishment inventories and standardized achievement tests. Alamitos, California: SWRL Educational Research and Development, Technical Report 77, 1982.

Milazzo, P., Buchanan, A., Escoe, A., and Schutz, R. Method for analyzing district level IAI data bases to identify learning opportunity risks. Alamitos, California: SWRL Educational Research and Development, Technical Report 73, 1981.

Milazzo, P., Buchanan, A., and Schutz, R. Methodology for analysis of IAI district level data bases. Alamitos, California: SWRL Educational Research and Development, Technical Report 70, 1981.

Neidermeyer, F. C. Curriculum alignment - a way to make schooling more understandable. Alamitos, California: SWRL Educational Research and Development, Professional Paper 41, 1979.

Popham, W. J. Teacher evaluation and domain-referenced measurement. Educational Technology, June, 1974.

Reneau, G. and Milazzo, P. Using the results of IAI data base analyses to generate educational program architecture. Alamitos, California: SWRL Educational Research and Development, Technical Report 74, 1982.

Rosenshine, B. V. Primary grades instruction and student achievement gain. Urbana, Illinois: Bureau of Educational Research, 1977.

Schwille, J., Porter, A., Belli, A., Floden, R., Freeman, D., Knappen, L., Kuhs, T., and Schmidt, W. H. Teachers as policy brokers in the content of elementary school mathematics. East Lansing, Michigan: Institute for Research on Teaching, Michigan State University, 1981.

5. DIRECT TEACHING/INSTRUCTION

Introduction

A number of researchers studying effective schools and classrooms have reported the efficacy of techniques subsumed under the direct teaching/instruction umbrella. Rosenshine (1979) reported that students learn best when instruction is teacher directed. Stallings and Hentzell (1978) concluded that higher achievement is associated with orderly classrooms, persistent application to academic tasks, teachers' active involvement with the class, and with a well organized and structured learning situation. In comparing many studies of classroom effectiveness, Ebmeir and Good (1979) also purported that students benefited more from direct instruction situations than from other types of instruction.

It would be misleading to imply that there is a single type of direct teaching/instruction. However, the approach which was developed in the Bereiter and Engelmann Preschool in the 1960's and further advanced by Engelmann and colleagues in the Oregon Direct Instructional Model has become the most visible. In addition, the Exemplary Center for Reading Instruction (ECRI) Model developed by Reid which is a validated program by the National Diffusion Network is receiving positive acclaim by recent research (Rosenshine 1983). Both of these models exemplify the various principles considered critical to direct teaching/instruction and are therefore the primary focus of this paper.

Operational Definition

In a soon to be published book, Stowitschick and others contrast direct instruction and nondirect instruction approaches. They point out:

> "that the nondirect teacher is not necessarily involved in the act of teaching. Rather, the child and the setting are considered the most crucial instructional elements. The teacher is a guide or facilitator of learning who works from the sidelines, so to speak. As contrasted to direct instruction where the instructional activities involves teachers and children interacting. The teacher directs and prompts students to respond correctly to tasks. The teacher performs direct activities that produce measurable effects on educational performance of children." [p. 84]

Direct instruction as described by Becker (1978) is an instructional approach that emphasizes the use of groups, face-to-face instruction by teachers and aides using carefully sequenced lessons. The approach also emphasizes careful quality control of teaching training procedures, teaching processes, and pupil progress. A basic assumption underlying the direct instruction model as proposed by Engelmann and Associates is that the child has a right to learn and the consequent requirement that if a student fails, the teaching sequences are inappropriate and must be restructured so the learner will succeed.

Many of the direct instruction programs have the following attributes:

- ° Teacher presentations are scripted or preplanned.
- ° Presentations are fast-paced.
- ° Small groups are utilized to maximize student response opportunities and teacher monitoring.
- ° Tasks are taught to criterion with all students participating.
- ° Individual student tests are given to determine mastery.
- ° Teachers use verbal reinforcement and response contingencies to maintain student motivation.

One principle that is central to many direct instruction programs is the use of group responding. Both the Oregon Direct Instruction Model and the Exemplary Center for Reading Instruction (ECRI) make extensive use of choral responses from student. Becker (1977) stated that choral "responding" (to a signal) (a) allows a teacher to monitor the learning of all students effectively and quickly; (b) allows the teacher to correct the entire group when an error is made; and (c) makes the drill more like a game because of the whole-group instruction.

Still another important aspect that is emphasized is the fact that errors do not go uncorrected. The Oregon Direct Instruction Model and the ECRI Model provide specific correction procedures for teachers to use in the event of student errors.

Identification of Key Studies Relating to the Process

In addition to the earlier mentioned studies, other researchers of effective classroom practices in elementary grades such as Brophy and Everston (1976); Fischer et.al., (1980); Good and Grouws, (1979); Stevens & Rosenshine, (1981), and Rosenshine (1983) have isolated teaching practices that are consistently effective, and are central to the direct instruction approach. In addition, Maggs and Maggs (1979) reported that the direct instruction model has been effective in the Australian School System for:

1. normal children in the regular classroom;
2. children in the regular classroom with mild skill deficit;
3. children in their regular classroom with moderate to severe skill deficits;
4. children going to "resource rooms" in regular school;
5. children in a "special" class within a regular school;
6. children in "disadvantaged" schools including aboriginal and migrant children;
7. children in schools for the mildly retarded; and
8. children in schools for the moderately to severely retarded.

Evaluation of the Quality of Research Dealing With the Process

The major findings of the National Evaluation of Follow Through were published in April 1977 by Abt Associates, Inc. 1977; this report is known as Abt IV Report. When coupled with the Abt III (Abt Associates, Inc. 1976), the major data of the evaluation of several head start projects are summarized. The data analyses revealed that the direct instruction model was most effective in terms of basic academic and affective outcomes. Questions have been raised concerning the fairness of the Abt evaluations and conclusions, therefore, the Ford Foundation commissioned a group headed by Ernest House to examine the Abt IV Report and instigate an "independent" appraisal. The House et.al., 1978 concluded that the Abt IV Report was defective and concluded that no model in the Follow Through programs could claim superiority. Conversely, the House et.al., study has been equally criticized by many who claim that the direct instruction model did, in fact, produce superior achievement. Subsequent to these studies, several authors have reported high achievement gains utilizing the direct instruction method. Many of the authors claiming support for the direct instruction procedures are heavily involved in the development of instructional teaching materials which encompass basic principals of direct instruction. These studies have been criticized by some for a variety of methodological and philosophical reasons, however, the studies do present a consistently positive posture for the direct instruction method.

Judged Potential for Classroom Implementation Without Special Resources

Considering the number of studies conducted through the years beginning with the disadvantaged, handicapped and to current research in regular education, the direct instruction method appears to be a powerful instructional method. Although, a number of commercial published materials are available which encompass the principals of direct instruction, which are listed later, teachers can, without the use of these materials, implement the direct instruction procedures. It is suggested that specific training in these principles and methods be obtained by educators to most effectively maximize these powerful elements of instruction.

Special Resources Required to Implement the Process

Following is a list of the most well known published materials that are available which encompass direct instruction procedures:

> Nine DISTAR programs published by SRA (three levels each in reading, arithmetic, and language. Other programs include SRA Corrective Reading (comprehensive and decoding skills at three levels), Morphological Spelling and a math series covering fractions and equations. Under development are programs in expository writing, cursive writing, a basal spelling series based on morphographs, a telephone book based program to teach library and reference skills, and a basic vocabulary program.

The Exemplary Center for Reading Instruction (ECRI), has developed an extensive training program utilizing twelve self-instructional teacher texts that contain many of the principles of direct instruction. The topics include:

1. Teaching creative comprehension skills
2. Teaching critical comprehensive skills
3. Eliciting responses and teaching proofing through dictation
4. Teaching new words through the word structure methods
5. Teaching literal and inferential comprehension skills
6. Teaching new words through phonics
7. Informal reading inventors
8. Teaching study skills
9. Teaching letter names and sounds

10. Teaching manuscript and cursive penmanship skills

11. Teaching new words through the sign and context methods

12. Teaching spelling skills

Summary of Research/Documented Benefits of Implementation of the Process

Rosenshine's (1983) excellent review of teaching functions in instructional programs details many principles of direct instruction. The comprehensive review highlights the positive achievement gains of students being taught with direct instruction. Crawford and Stallings (1978) reported the successful results of a treatment model that increased third grade teachers' usage of direct instructional principles. In addition, McDonald (1976) and Stallings (1976) both reported that any teaching performance that increases direct instructional time in subject matter areas, tends to be associated with greater achievement gains in different subject and across grade levels. Good (1979) provided information why direct instruction works. He pointed out that:

> "One of the reasons a direct instruction model works is because it strongly underlines the importance of the individual teacher. If teachers can make a difference, direct instruction arguments may provide a positive motivational source that encourages teachers to plan their days more fully, take their responsibilities more seriously, and thus fulfill their expectations. ...the clear focus on achievement provided by a direct instructional model may help teachers think about and emphasize certain goals with greater clarity and enthusiasm. Such practice stimulation may lead teachers to spend more time in planning for and conducting activities related to achievement and thereby enhance student achievement, but not necessarily at the expense of other goals." [pp. 57, 58]

In Summary, Good maintained that:

> "The direct instruction model works, in part, because of motivation arousal but also because the set of instructional activities for students and teachers is relevant, if not important, to conditions for learning." [p. 58]

REFERENCES

Abt Associates. *Education as experimentation: A planned variation model* (Vol. III). Cambridge, Mass.: Abt Associates, 1976.

Abt Associates. *Education as experimentation: A planned variation model*. (Vol. IV). Cambridge, Mass.: Abt Associates, 1977.

Becker, W. C. Teaching reading and language to the disadvantaged: What we have learned from field research. *Harvard Educational Review*, 1977, 47, 518-543.

Becker, W. C. The national evaluation of follow through behavior: Theory-based programs come out on top. *Education and Urban Society*, 1978, 10, #4, 431-458.

Brophy, J. and Evertson, C. *Learning from teaching: A developmental perspective*. Boston: Allyn and Bacon, 1976

Crawford, J. and Stallings, J. *Experimental effects of in-service teacher training derived from process-product correlations in the primary grades*. Center for Educational Research, Stanford University, 1978.

Ebmeir, H. and Good, T. An investigation of the interactive effects among student types, teacher types, and instruction types on the mathematics achievement of fourth grade students. *American Educational Research Journal*, XVI, Winter, (1979), 1-16.

Fischer, C. W., Berliner, D. C. Filby, N. N., Marliave, R., Cahen, L. S., and Dishaw, M. M. Teaching behaviors, academic learning time and student achievement: An overview. In Denham, C. and Lieberman, A. (Eds.), *Time to Learn*. Washington, D. C.: USOE/NIE Printing, 1980.

Good, T. Teacher effectiveness in the elementary school. *Journal of Teacher Education*, XXX, 2 (March-April, 1979), 52-63.

Good, T. Teacher effectiveness in the elementary schools. *Journal of Teacher Education*, 1979, *30*, #2, 55-64.

Good, T. and Grouws, D. A. The Missouri mathematics effectiveness project: An experimental study in fourth-grade classrooms. *Journal of Educational Psychology*, 1979, *71*, 355-362.

House, E. R., Glass, G. V., McLean, L. D., Walker, D. E. No simple answer: Critique of the follow through evaluation. *Harvard Educational Review*, 1978, *48*, 128-160.

Maggs, A. and Maggs, R. K. Direct Instruction Research In Australia. *Journal of Special Education Technology*, 1979, *2*, #3, 26-34.

McDonald, F. Report on phase II of the beginning teacher evaluation study. *Journal of Teacher Education*, 1976, *27* (1) 39-42.

Rosenshine, B. Teaching Functions in Instructional Programs. The Elementary School Journal, 1983, 83, #4, 335-351.

Rosenshine, B. V. Content, time and direct instruction. In Peterson, P. L. and Walberg, H. J. Research on Teaching: Concepts, Findings and Implications. Berkeley, California: McCutchan Publishing Company, 1979.

Stallings, J. Relationships between classroom instructional practices and child development. Menlo Park, Calif.: Stanford Research Institute, 1975. (ERIC Document Reproductions Service No. ED 110200)

Stallings, J. How instructional processes relate to child outcome in a national study of follow through. Journal of Teacher Education, 1976, 27 (1), 43-47.

Stallings, J. and Hentzell, S. Effective teaching and learning in urban schools. A paper presented at the National Conference on Urban Education, July 10-14, St. Louis, 1978.

Stevens, R., and Rosenshine, B. Advances in research on teaching. Exceptional Education Quarterly, 1981, 2, 1-10.

Stowitschek, J. J., Stowitschek C. E., Hendrickson, J. M., Day, R. Direct Teachings Tactics for Exceptional Children A Practice and Supervision Guide. (In press)

6. MONITORING OF STUDENT PROGRESS AND EVALUATIVE FEEDBACK

Introduction

Monitoring student progress and providing appropriate feedback is a necessary and traditional part of any formal instructional activity. This process takes on added importance in instructional systems which are objectives-driven and, in particular, in approaches such as Bloom's concept of mastery learning. As a classroom process which distinguishes between high and low achieving classrooms or schools, monitoring and providing feedback takes on a high intensity quality which differentiates this process as a research-linked activity from the more traditional low intensity approaches which have always been practiced by teachers.

Operational Definition

Monitoring of student progress and feedback based on that monitoring occurs in many ways and ranges from very informal activities to very formal ones. Monitoring may be based on a variety of different kinds of tests, teacher observation, evaluation of student products such as essays, teacher questioning, etc. Feedback consists of analyzing information obtained from monitoring activities and providing information to students as to the accuracy of their responses or quality of assignments. Feedback can be supplied in a question and answer format, specific test results, individual counseling with students, through program texts, and in a variety of other ways.

Perhaps the most detailed and high intensity form of monitoring and feedback is found in the mastery learning process as outlined by authors such as Benjamin Bloom and James Block. Block's notion of mastery learning contains the following elements:

- Instructional objectives, or statements of what the students are to learn.
- Brief learning units organized around sets of related objectives.
- Highly valid, formative tests used to assess student learning pertinent to the instructional objectives.
- Pre-determined levels of performance on these tests indicating "mastery" of the underlying objectives.
- Communication with the students about what they are expected to learn and how they are to learn it.
- Additional learning activities or materials (correctives) for students who fail to obtain pre-set levels of performance.
- Monitoring of these correctives and administration of additional formative tests until virtually all students have met the performance standards.
- Use of cumulative or summative tests to assign grades.
- Assignment of grades of the basis of summative test performance based on pre-set standards, rather than on the basis of comparison with the performance of other students.

While the mastery learning model is a highly formalized expression of an intensive monitoring and feedback process, these same elements, at some level of implementation, would generally appear in any systematic monitoring and feedback process.

Identification of Key Studies Relating to the Process

A considerable amount of work has been done on the relationship of student monitoring and feedback to academic achievement. Benjamin Bloom's (1974) article on Time and Learning is a significant contribution to this area as is a book edited by James Block entitled Mastery Learning: Theory and Practice (1971). Charles Fisher and his colleagues (1980) in their chapter on teaching behaviors, academic learning time, and student achievement in the volume Time to Learn, describe a process heavily dependent on monitoring and feedback as part of an instructional system which also includes diagnosis, prescription and presentation. Brookover and his associates in Creating Effective Schools (1982) also provide a useful chapter on the use of assessment data for school improvement.

Evaluation of the Quality of Research Dealing with the Process

These two aspects of a total instructional system are rather well grounded in the evaluation and research literature. They are typically seen as two portions of an overall system, but in such studies as the Beginning Teacher Evaluation Study have been examined independently as well. As with other research on the relationship of a given process to student achievement, evidence for the efficacy of these two instructional elements lacks the high degree of definity one would desire. It is reasonable to conclude, based on available research, that classrooms which incorporate these two elements in a total instructional system do, in fact, achieve higher scores on standardized and other kinds of achievement tests. The long-term work on mastery learning as well as the more recent contributions of the Beginning Teacher Evaluation Study as well as a variety of other sources, add an element of credibility based on consistent, positive findings, even if such findings are not based on the most rigorous of evaluation designs.

Judged Potential for Classroom Implementation Without Special Resources

A heightened level of monitoring and feedback to students is possible in any classroom, with any curriculum. Indeed, the Beginning Teacher Evaluation Study noted that the major form of monitoring which typically takes place in a given classroom is teacher questioning in a group setting. Obviously more formalized elements such as testing and evaluation of student products are also highly desirable aspects of student monitoring. Frequent feedback to students on the quality of their answers is also an activity which can be emphasized by teachers without special resources. This might take the form of heightening question and answer activities as well as frequent, written feedback on a variety of tests and assignments.

Special Resources Required to Implement the Process

Obviously the maximum benefit from enhanced attention to student evaluation and feedback is realized in a total instructional system such as that proposed in Block's notion of mastery learning or Fisher's definition of effective teaching. Both of these systems and others, which include heavy evaluation and feedback elements, are grounded in well-defined objectives and systematic procedures for determining student status and accomplishments in relationship to those objectives. If such an instructional system is not present, monitoring and feedback must be more defuse and, therefore, less effective. The implementation of a total instructional system such as the mastery learning or Beginning Teacher Evaluation Study models is not a small undertaking. In general, such a system demands both district and building-level support in the form of curriculum guides, statements of objectives, and assessment techniques.

Summary of Research Documented Benefits of Implementation of the Process

As noted above, much of the evidence for the effectiveness of student monitoring and evaluative feedback comes from studies which look at these two elements as parts of total instructional systems. It is important to keep that fact in mind in examining the specific conclusions sited below.

- Thus, it is a good idea to monitor seat work by going around the room giving help or feedback as frequently as possible. Descriptions of high-achieving classes suggest that good teachers do this not only to keep students on task, but to find out as much as they can about how students are doing so they can plan further instruction (Fisher, et. al, 1980).

° One particularly important teaching activity is providing academic feedback to students (letting them know whether their answers are right or wrong, or giving them the right answers). Academic feedback should be provided as often as possible to students. When more frequent feedback is offered, students pay attention more and learn more. Academic feedback was more strongly and consistently related to achievement than any of the other teaching behaviors (Fisher, et. al, 1980).

° A final comment comes from descriptions of high achieving classes. These classes tended to have some type of positive reward system. Good work was rewarded. Such rewards were not frequent, but students had some sense, formal or informal, of what they had to do to get them. There seems to be value in reward systems that acknowledge major learning events: They give the student recognition for working and succeeding (Fisher, et. al, 1980).

° The frequency and quality of feedback given to students is associated with success in learning (Cohen, 1981).

° Student performance is monitored more by effective teachers (Berliner, 1979).

° If the student gives an incorrect response, it is important that the instructor stay with that student and rephrase the question or give a clue so that the student can succeed and give a correct answer. A wrong answer can provide an opportunity for the teacher to clarify and re-teach if necessary (Stallings, et. al, 1978).

REFERENCES

Berliner, D. Tempus educate. In Peterson, P., & Walberg, H. (Eds.) Research on teaching: Concepts, findings, and implications. Berkeley: McCutchan Publishing Company, 1979.

Block, J. H. (Ed.) Mastery learning: Theory and practice. New York: Holt, Rinehart & Winston, 1971.

Bloom, B. S. Time and learning. American Psychologist, 1974, 29, 682-688.

Brookover, W. B., Beamer, L., Efthim, H., Hathaway, L., Lezotte, L., Miller, S., Passalacava, J., & Tornatzky, L. Creating effective schools. Homes Beach Florida: Learning Publications, Inc., 1982.

Cohen, M. Effective schools: What the research says. Today's Education: Social Studies Edition, 1981, 70 (2), 38-41.

Fisher, F. W., Berliner, D. C., Filby, N. N., Marliave, R., Cahen, L. S., & Dishaw, M. M. Teaching behaviors, academic learning time, and student achievement. In Denham, C., & Lieberman, A. (Eds.) Time to Learn. National Institute of Education, 1980.

Stallings, J. A., Cory, R., Fairweather, J., & Needles, M. A study of basic reading skills taught in secondary schools. Menlo Park, CA: SRI International, January, 1978. (EDRS# ED 210 669).

7. HOMEWORK

Introduction

In the past, the need for homework to "cement" the learning which took place in the classroom was largely seen as self-evident, and supported by a majority of parents and teachers, if not, alas, by students. More recently, however, the value and purpose of homework has been debated by educators and has resulted, at the very least, in the subjective perception of professional disarray and confusion on this topic. As the popularity of homework waxes and wanes with various pedagogical movements, questions are asked by educators and the lay public as to the usefulness and appropriateness of homework. Although not a thoroughly-researched area to date, emerging data from the effective schools literature offers some information regarding the relationship between homework and desirable educational outcomes.

Operational Definition

Probably because of its self-evident nature, nowhere in the research reviewed for this paper was there an operational definition of the term "homework." Obviously the term refers to work done at home, but for the purpose of a more exact common understanding the following will be used in this paper as the operational definition of the term:

> Homework: The assignment, by an instructor (or aide), of after-hours school work for the purpose of student review and practice of concepts and techniques introduced during classroom instruction.

Identification of Key Studies Relating to the Process

Austin (1977) reviewed the research on homework in mathematics and summarized published findings on homework effects. Although research reviewed is limited to one subject area, the Austin review offers a concise summary of relevant research up to 1977. More recently, Keith (1982) reported the results of a large-sample path analysis examining the relationship of homework to school grades. The Keith study represents one of the most sophisticated studies examining this topic and as such, has to be considered a substantial contribution to the research literature on homework. Keith also briefly reviews other recent work on this topic which might be helpful for readers interested in further examination of this topic.

Evaluation of the Quality of Research Dealing With the Process

The quality of the research on this topic varies from fair to quite good, and while individual studies may have greater or lesser methodological problems, collectively they create a profile on the effects of homework upon student achievement. To more effectively report on the emerging profile, this section's discussion will briefly examine studies which address the following issues:

(a) Types of homework assignments

(b) Amount of time spent on homework

(c) Feedback provided to students' homework assignment

(d) Teacher expectations regarding homework

(e) Other related research findings

Types of homework assignments. The present literature review identified only a few studies which specifically examine the value of varying types of homework assignments. Kock (1965) and Maertens and Johnston (1972) found that students receiving homework assignments which provided practice in computational skills experienced significantly better outcomes than "no homework" students. However, an earlier study by Maertens (1969) had found no significant differences in this area. The two Maertens studies however differed in the populations examined. The earlier study, which found no significant differences, examined the attitudes and achievement of third graders, while the latter study was focused on the upper elementary grades (fourth through sixth grades). It might be that homework might become a more significant factor in achievement as course work becomes more complex in the upper grades.

The Kock study (1965) is interesting because it reported that while computational skills improved in relationship to greater amounts of homework assigned, problem-solving skills were not significantly affected by increased amounts of homework. While definitive statements cannot be made, it would appear from the Kock study that while certain types of academic skills (e.g., computation) may benefit from added practice, other skills such as problem-solving which are of a more conceptual nature may not necessarily benefit from simply adding more practice time in the form of homework.

Amount of time spent on homework. As stated above, the Kock study found that while increased amounts of daily homework improved performance of computational skills, it did not significantly affect problem-solving skills. Rutter, et al (1979) found that while the assignment of "homework" seemed to be a factor associated with more effective schools (as measured by student behavior and outcomes), the actual amount of time spent on daily homework (as reported by students was not great--from a low of 15 minutes per day at one school to a high of 35 minutes at another. Other researchers, however, (Wolf, 1979; Keith, 1982) have found that "the number of hours of homework per week is substantially related to achievement." (Wolf, 1979, p. 321)

While achievement has been measured differently in varying studies, (e.g., exam grades, standardized test scores, high school grades) there exists a consistent set of data which associates greater time spent on homework with better academic outcomes. Further, Keith (1982) documents what he terms the "compensatory effects of studying." The data from his study show that "With one to three hours of homework per week, the average low-ability student can achieve grades commensurate with the average-ability student who does not do homework. Keith concludes:

> "The implications of this and past research seem clear: increased homework time results in higher achievement...for all levels of ability. Homework also seems to have compensatory effects; students of lower ability can achieve grades commensurate with their brighter peers through increased study." (p. 252)

Feedback provided to homework assignments. Much of the research summarized by Austin deals with varying types of feedback provided to students on their homework and the relative impact of such feedback upon achievement. For example, Austin and Austin (1974) reported that grading every homework problem versus only grading half of the problems resulted in no significant differences between treatment groups on achievement after a six-week period. In another study, Austin (1976) reported mixed findings with two of nine classes randomly assigned to a treatment group which received written comments on homework showing achievement superior to the "no comment" group. In the other seven classes, however, no significant differences were found between the comment and no comment groups. More recent research by Dick (1980) demonstrated no significant differences in achievement between groups of Algebra I students whose homework problems were reviewed and explained (the day after the assignment was given) and those who only received a review of specific problems selected by the students.

These findings suggest that while teacher feedback of homework assignments might be a useful tool to reinforce learning, not all work must be commented upon or reviewed to yield benefits in student achievements.

Expectations regarding homework. While Rutter, et al (1979) found significant positive correlations between "homework" and positive student behavior and achievement, those researchers nevertheless concluded: "The findings . . . do not show how and why homework is associated with better outcomes, but it may well be that in addition to its practical value in providing opportunities for the consolidation of the learning or work introduced in school time, homework may also be of symbolic importance in emphasizing the school's concerns for academic progress, and its expectations that pupils have the ability and self-discipline needed to work without direct supervision." (p. 110)

If Rutter's assessment is correct, the assignment and collection of homework may serve as a visible manifestation of the positive academic expectations held by teachers and, as discussed in an earlier paper in this series, may act to reinforce a positive "self-fulfilling prophecy" of student achievement.

Other related research findings. A variety of early research studies reported by Austin (1977) in his literature review on the role of homework in mathematics suggest that "homework seems preferable to non-homework at least for grades 4-10. Work by Hines (1957) suggests that the effect of homework may be cumulative in nature.

The issue of parental involvement in homework remains inconclusive. While parental involvement resulted in significant achievement differences favoring the homework group (with parental involvement), Gray and Allison (1971) found no differences.

Ainsworth and Batten (1974) in British study which preceded the work by Rutter et al (1979) did find that academically successful schools tended to have an emphasis on examinations and on homework. Rosenshine and Stevens

(1976) reported that most effective teachers assigned homework and held students responsible for it. Finally, Mackenzie (1983) in his "study of studies" on the effective schools literature summarized the limited data available in this area by concluding:

> A consistent emphasis on homework and study, [underlining added for emphasis] encouragement for students to assume responsibility for their own learning and that of others, and a general acceptance of responsibility for outcomes all seem to be characteristic of high-achieving environments. [p.11]

Judged Potential for Classroom Implementation Without Special Resources

This variable, unlike several others examined in this series, has a greater likelihood for classroom implementation without the addition of special resources. It is a matter of teacher judgment whether or not he/she will assign homework, collect, and check it. Additionally, classroom instructors are also free to determine the amount of homework assigned. For these reasons, teacher implementation would be judged high (assuming that teachers already value the role of homework as in adjunct to class-based learning activities).

Special Resources Required to Implement the Process

Organizational support to insure that homework is assigned and reviewed could be provided without substantial additional costs simply by relying upon the leadership of the principal, department head, or teacher-leader to add this as an area to review during clinical supervision observations and conferences.

Faculty meetings, or a minimal amount of staff inservice time could also be allocated to develop school-wide norms and faculty consensus on the allocation of homework assignments.

More costly, but still viable, could be the use of aides or volunteers to review incoming homework and thus provide feedback to students on their assignments without overloading the classroom teacher. The preceding suggestions, while facilitative, are not requisite for the implementation of homework as a classroom process.

Summary of Research Documented Benefits of Implementation of the Process

As discussed earlier, there exists a limited amount of moderately good data to suggest that assigning and checking homework does result in positive behavioral and academic outcomes for students. Additionally, fairly sophisticated research work has shown a positive relationship between the amount of time spent on homework weekly and student achievement. The compensatory value of homework for low ability students has also been suggested in the research.

Whether homework operates to give students the opportunity to consolidate learning, practice skills, or merely as a symbolic manifestation of high teacher and school expectations is still unclear.

It also appears reasonable to suggest that the quality of the homework assignment and the degree of "fit" (relevance to and integration into the curriculum) will also play a part in determining its value with regard to student achievement.

While the generalizability of some of the research may be suspect, the implementation of this process will in all likelihood not cause negative repercussions to either students or teachers, is not a particularly expensive process to implement, and does offer the promise of benefits in terms of student academic achievement and improved classroom climate.

REFERENCES

Ainsworth, M. E. and Batten, E. J. The effect of environmental factors on secondary educational attainment in Manchester: A Plowden follow-up. London: MacMillan, 1974.

Austin, J. D., and Austin, K. A. Homework grading procedures in junior high mathematics classes. School Science and Mathematics, 1974, 74, p. 269-272.

Austin, J. D. Do comments on mathematics homework affect student achievement? School Science and Mathematics, 1976, 76, p. 159-164.

Austin, J. D. Homework research in mathematics. School Science and Mathematics, 1979, 79, p. 115-121.

Dick, D. An experimental study of the effects of required homework: review versus review on request upon achievement, 1980.

Gray, R. F. and Allison, D. E. An experimental study of the relationship of homework to pupil success in computation with fractions. School Science and Mathematics, 1971, 71, p. 339-346.

Hines, V. A. Homework and achievement in plane geometry. The Mathematics Teacher, 1957, 50, p. 27-29.

Keith, T. Z. Time spent on homework and high school grades: a large-sample path analysis. Journal of Educational Psychology, 1982, Vol. 74, No. 2, p. 248-253.

Kock, E. A., Jr. Homework in arithmetic. The Arithmetic Teacher, 1965, 12, p. 9-13.

Mackenzie, D. E. "Research for school improvement. An appraisal of some recent trends." Educational Researcher, April, 1983. p. 5-17.

Maertens, N. An analysis of the effects of arithmetic homework upon the arithmetic achievement of third-grade pupils. The Arithmetic Teacher, 1969, 16, p. 383-389.

Maertens, N., and Johnston, J. Effects of arithmetic homework upon the attitudes and achievement of fourth, fifth and sixth grade pupils. School Science and Mathematics, 1972, 72, p. 117-126.

Rosenshine, B., Stevens, R. "Advances in research on teaching." Exceptional Education Quarterly, 1981, 2, 1-10.

Rutter, M., Maughan, B., Mortimore, P., Ouston, J. with Smith, A. Fifteen thousand hours: Secondary schools with their effects on children. Cambridge, Massachusetts: Howard University Press, 1979.

Wolf, R. M. Achievement in the United States. In Walberg, H. J. (Ed.), Educational environments and effects: Evaluation, policy, and productivity. Berkeley: McCutchan, 1979.

8. PARENTS' ACADEMIC INVOLVEMENT WITH THEIR OWN CHILDREN

Introduction

Parental involvement in education is a frequently misunderstood concept for educators as well as for parents. Traditionally, parent involvement in schools has largely consisted of activities only tangentially related to student achievement. While parent volunteers collectively provide many hours of important services to schools, by far the largest proportion of these hours are spent in support of things other than achievement (i.e., fund-raising, supervision, recreation, parties, etc.). While philosophically many, if not most, educators would agree that parents need to assume part of the responsibility for the educational achievement of their children. Questions regarding "how much" involvement is appropriate and under what circumstances are frequently raised when this topic is discussed.

Parents, too, have their concerns: "Will teachers resent me and see me as a 'meddler?'", "How will my involvement affect my children?", and, an even more basic issue, "What do I have to contribute?" are among parents' most frequently asked questions.

The level and scope of parental (and citizen) involvement in the education system will continue to be an important topic in education in the decade of the 80's. For this reason, as well as the fact that "Parental Involvement" is one of the "threads" running through the school effectiveness literature, this summary presents the existing, if equivocal, findings on this topic generated by the research on effective schools.

Operational Definition

The Colorado Department of Education has identified the following as elements which contribute to effective parental involvement. These elements will be used in this summary as constituting the operational definition of this variable:

Parents of Our Students Work With Them At Home In Support of The School's Program.

a. Teachers organize materials and provide instructions to parents for their use in improving their child's performance.

b. Parent training programs are offered in the school which teach parents how to assist in their child's learning.

c. Teachers inform parents of their child's education progress and indicate areas where improvement may be needed.

d. Programs in meeting course/grade level objective exist in which some school staff go to students' homes.

e. Parents are kept aware of learning objectives for each grade level/course.

There is a Strong Program of Parent Support and Participation in the School.

a. Many teachers use parent volunteers in the instructional setting.

b. Parents are involved in decision-reaching through advisory and accountability committees.

c. Parents are actively involved in working on school improvement tasks with staff and students.

d. Policies or procedures exist which encourage teachers to seek parent support for their child's education.

e. Teachers and principals make parents feel welcome at the school by being accessible and responsive to them.

The Community as a Whole (Including Business, Other Institutions And Citizens Without Children in the School) Is Involved In Supporting The School.

a. The school sends students into community settings to gain a variety of experiences.

b. Community people are invited into the school to give presentations.

c. Citizens participate in planning for school improvement.

d. Business/education councils or adopt-a-school programs exist.

e. Community participation at school events is good.

A cautionary note: Although three major areas are identified in this operational definition, most of the school effectiveness literature which has identified "parental involvement" as an important factor has principally focused on the first two areas. Thus, while educators need to consider involvement processes which include community members who may not currently be patrons of the schools as well as "parent-patrons" the review of the literature is of a more limited scope focusing on parents' involvement with their own children's academic achievement.

Identification of Key Studies Relating to the Process

The following are among the most frequently quoted works in relation to this area:

Phi Delta Kappan, 1980
Stallings, J.A., 1981
New York State Department of Education, 1974
California State Department of Education, 1977

In addition, the following works were useful in the preparation of this report and might provide further direction for individuals interested in this topic:

Colorado State Department of Education, 1981
Connecticut State Department of Education, 1981
Henderson, A., 1981

Evaluation of the Quality of Research Dealing With the Process

Two major reasons accounted for the considerable difficulty experienced in determining the quality of the research concerning this variable: (1) Reliance upon "Studies of Studies" in the preparation of this summary. These syntheses or meta-analyses of the research literature summarize key findings without detailing methodology and thus limit the potential for critical evaluation of the research process and (2) wide variability in the definitions employed by various researchers regarding what they consider as "parental involvement."

Wynne (1981) details a number of ways in which "good schools" have involved parents:

> "In good schools...information flows between school and home...was important. The means included handbooks for students and parents, report cards, periodic newsletters..., regular parent/teacher meetings, bulletin boards, notes from teachers, and diverse activities that brought parents into the building during school hours. Many good schools informed parents that their children would typically be given a specified amount of homework each night. This encouraged parents to supervise their children's studies...where student tardiness or absenteeism were potential problems, good schools made prompt contact with parents."

The relatively passive nature of the "involvement" identified by Wynne is contrasted with Brookover's (1982) suggestion that parents should be asked to perform tasks in the schools including (1) assisting in the handling of instructional materials, (2) supervising students working independently, and (3) tutoring. Tomlinson (1980) echoes Brookover by stating that using parents...to help keep children "on task" contributes to school effectiveness. Stallings (1981) elaborates upon this by commenting that schools need to assume responsibility for involving parents appropriately.

According to Stallings, parent involvement leads to positive progress when parents were given specific tasks to do at home, and academic progress was noted in children of parents who had received training from the school in how to help their youngsters. The Phi Delta Kappan Study (1980) found parent involvement to be one of four factors which was repeatedly associated with improvement in the schools. The investigators in this study found that the form of involvement varied substantially among schools. They concluded that formal parental involvement (e.g., participation in advisory councils, in PTA's, volunteers or aides, etc.) was more useful than informal involvement.

The preceding findings have to be evaluated in conjunction with contrary data reported by other authors. In fact, one set of studies by Brookover and Lezotte (1979) found that there was less overall parent involvement in the more effective schools than in the rest of the schools in their sample. However, the staff members in the improving schools indicated that their schools had higher levels of parent-initiated involvement than other schools. Brookover and Lezotte concluded that there is a need to look more closely at the nature of the involvement of parents as a factor in school achievement. Mackenzie (1982), in his summary of a variety of "effective school" studies, states that "although parent contact and involvement would seem to have obvious importance...there is little evidence of strong relationship between the amount of parent contact and successful school achievement." [p. 11]

Hallinger's (1981) summary of similar literature supports MacKenzie's contention by noting that there does not appear to be a consistent pattern of parent involvement that distinguishes effective schools from less effective ones. Nevertheless, Hallinger adds that those studies which have found a positive effect as a result of parental involvement have generally reflected an alteration of the home-learning environment characterized by increased parent instructional contact with his/her child. He then suggests that while parental involvement may not be a "first order" factor in improving students' academic achievement, nevertheless, when well applied it may result in a boost to pupil achievement particularly for low socio-economic status students.

To summarize, the research findings in this area are equivocal. Some writers identify specific areas for parental involvement which seem to result in increased parent-child contact on academic matters and improved student achievement. Other researchers have come to the conclusion that parental involvement adds little, if anything, to specific increases in academic achievement. Judgments regard the quality of the research are difficult to make, partially as a result of the process employed in developing this summary based on secondary sources and partially as a result of the lack of clarity and/or uniformity in researchers' definitions of "parent involvement." Overall it can be said that "parent involvement" is a recurring theme in the school effectiveness literature and to date it is an identified but poorly defined and researched component.

Judged Potential for Classroom Implementation without Special Resources

Although individual teachers may seek to increase the nature and extent of involvement of their students' parents, many will not know how exactly to go about doing so most effectively and thus may become easily discouraged in their efforts. Additionally, they may face formal and informal pressures to limit the involvement of parents if such involvement violates traditional practices of peers and/or administration. Therefore, the judged potential for implementation is considered low without the provision of special resources and assistance.

Special Resources Required to Implement the Process

Implementation of a parent involvement process will be enhanced by provision of the following:

a. Inservice to faculty and administration on this topic and related research literature.

b. A series of working meetings involving parents, faculty members and administrators, designed to develop a consensus of opinion on school-wide norms and expectations regarding parent involvement.

c. A staff development program designed to assist teachers in developing ways to more effectively utilize parental involvement processes geared to enhancing student achievement.

d. A parent-development program designed to instruct parents in the most effective ways to engage their children to enhance the home-learning environment and maximize student academic gain.

Summary of Research Documented Benefits of Implementation of the Process

The research on this topic is equivocal, although there is some some indication that parents' involvement in their children's academic work, when guided by clearly defined expectations of school personnel, and focused on developing an enhanced home-learning climate, does have a positive effect on student academic gain, especially for low socio-economic status students.

REFERENCES

Brookover, W. B., Beamer, L., Efthim, H., Hathaway, D., Lezotte, L., Miller, S., Passalacque, J., Tornetzky, L. *Creative effective schools: An inservice program for enhancing school learning climate and achievement*. Homes Beach, Florida: Learning Publications, 1982.

Brookover, W., and Lezotte, L. *Changes in school characteristics coincident with changes in student achievement*. East Lansing, Michigan: Michigan State University, Institute for Research on Teaching, 1979.

California Department of Education. *School effectiveness study: The first year*. Sacramento, California: Office of Program Evaluation and Research, 1977.

Colorado Department of Education. *Indicators of quality schools*. Denver, Colorado: School Improvement and Leadership Services Unit, 1982.

Hallinger, P. *Review of the school effectiveness research*. Unpublished doctoral paper, Palo Alto, California: Stanford University, 1981.

Mackenzie, D. E. "Research for school improvement: An appraisal of some recent trends." *Educational Researcher*, April 1983, pps. 5-17.

New York State Department of Education. *Reading achievement related to educational and environmental conditions in 12 New York City elementary schools*. Albany, New York: Division of Education Evaluation, March, 1974.

Phi Delta Kappan. *"Why do some urban schools succeed?"* Bloomington, Indiana: Phi Delta Kappan and Indiana University, 1980.

Stallings, J. A. "What research has to say to administrators of secondary schools about effective teaching and staff development." In Duckworth, E., Kehae, W., DeBevoise, and F. Donovan (Eds.), *Creating Conditions For Effective Teaching*. Eugene, Oregon: Center for Education Policy and Management, University of Oregon, 1981.

Tomlinson, T. M. *"Student ability, student background and student achievement: Another look at life in effective schools."* Paper presented at conference on effective schools sponsored by educational testing service, New York, New York. Washington, D. C.: National Institute of Education, U. S. Department of Education, May, 1980.

Wynne, E. A. "Looking at good schools." *Phi Delta Kappan*, January, 1971, pps. 377-381.

9. REINFORCEMENT OF SELF-CONCEPT

Introduction

One of the major criticisms of the so-called "effective schools" research is founded on the observation that virtually all of the studies used to identify effective schools or teachers do so on the basis of achievement test of one kind or another. Thus, the processes which have emerged as being characteristic of "effective schools" tend to distinguish between schools in only one domain -- academic achievement.

At the same time when parents or educators are asked in a systematic way about the important outcomes of education, non-cognitive considerations such as "building a healthy self-concept" invariably top the list of desired outcomes for students. The classroom process of reinforcement of self-concept, while not as well understood nor researched as some other classroom processes, does seem to have potential for promoting student outcomes beyond the academic domain.

Operational Definition

Reinforcement of self-concept cannot be an easily defined process. The outcome to which such as process is directed, "student's self-concept," is itself subject to a variety of interpretations. In general, classrooms where a high degree of reinforcement of self-concept is practiced would be characterized by a teacher who makes students feel good about themselves and their school work and where students hear about it when they do a good job. Such classes would feature displays of excellent work done by students and students would be encouraged to tell one another when they had done a good job.

The notion of reinforcement of self-concept should not be confused with global praise for students independent of their performance. The latter practice may actually have a negative influence on academic achievement and has no sound, demonstrated link to any affective outcome such as student academic self-concept.

Identification of Key Studies Relating to the Process

There are relatively few studies that address the implementation or results of this process directly. Two important contributions to understanding the relationship between student self-concept and factors which are related to it are those of Muraki and Whaley (1980) and Froh and Guida (1980). These studies are both chapters in Benjamin Bloom's monograph, "The State of Research on Selected Alterable Variables in Education" (1980).

Evertson, Anderson, and Brophy (1978) offer evidence that selective praise of superior performance does relate to academic achievement of eighth grade students in mathematics. But as noted earlier, non-specific praise may actually negative impact on student performance (Brophy, 1981). Rutter (1979) also reports moderate relationships between teaching approaches which stress the successes and potential of students and academic achievement for high school students.

Wilbur Brookover and his colleagues (1982) in their book on creating effective schools, deal cogently with the strengths and weaknesses of praise and outline the steps which should be followed in undertaking this aspect of reinforcement of self-concept.

Evaluation of the Quality of Research Dealing with the Process

As mentioned above, the research evidence supporting the relationship between reinforcement of self-concept and student outcomes is sparse at best. As with most other dimensions of classroom process, the relationships which have been demonstrated between reinforcement of self-concept and either achievement or affective outcomes are not causal in nature. Thus, it cannot be concluded that the use of techniques designed to foster enhanced self-concept among students will cause self-concept to be elevated. Rather, the research shows that in classrooms where there is strong emphasis on reinforcement of self-concept, students tend to have higher levels of academic self-concept, and in some cases higher achievement, than in classrooms where this is not true.

Judged Potential for Classroom Implementation Without Special Resources

Reinforcement of self-concept can be construed as both a set of teaching strategies and an element of classroom and school climate. The essence of the process is the recognition of the positive qualities in students along with specific techniques to foster and reinforce those positive qualities.

At the level of a teaching process, reinforcement of self-concept might take the form of judicious and precise use of praise which focuses on superior performance and labels that performance (Brookover, et al, 1982). Display of superior student work within the classroom and the school may be an important component of this process as would be a school-wide system of special recognition for outstanding academic and other accomplishments.

Probably the area of reinforcement of self-concept is as much a set of attitudes or values held by educators as it is a process. A great deal can be done in fostering a positive academic self-concept among students through rather simple, straightforward, procedures such as those mentioned above as well as promoting a climate which stresses the dignity and worth of individual students.

Special Resources Required to Implement the Process

The effective use of praise and other reinforcement techniques demands a familiarity with learning theory and sensitivity to the pitfalls of indiscriminate use of techniques like praise. Brookover, et al (1982) provides an outline for an inservice program in this area, among others, which could well serve as the basis for a total school training emphasis.

Summary of Research Documented Benefits of Implementation of the Process

Support for the worth of reinforcement of self-concept in fostering academic and affective qualities in students comes from a limited number of sources. As mentioned previously, one of the important considerations in this process is that its utilization is correlated with outcomes which are beyond the narrow academic focus of most of the "effective schools" literature. The following are some of the key benefits noted in the literature:

- While the links between punishment and outcome were rather variable, those between rewards and outcomes were more consistent. All forms of reward, praise or appreciation tended to be associated with better outcomes (Rutter, et al, 1979).
- Another form of positive feedback to children is provided by the display of their work on classroom walls. This could be seen as a means of the school showing appreciation of the value of the pupils work -- and hence an indirect form of reward or encouragement. Schools which used much display of pupils work tended to have a somewhat higher level of exam success (Rutter, et al, 1979).
- Our findings, similarly, suggested that pupils behaved better and achieved more when teachers treated them in ways which emphasized their successes and good potential rather than those which focused on their failings and shortcomings. (Rutter, et al, 1979).

- The reinforcement of self-concept scale had significant relationships with all the key goal area measures, except the mathematics total score. This educational process measure was highly related to the independent development and academic self-concept scales. These results indicated that reinforcement of self-concept is an important aspect of instruction, encouraging students to engage in self-initiated learning activities and fostering higher levels of academic self-concept (Ellison, et al, 1982).

REFERENCES

Bloom, B. S. The state of research on alterable variables in education. (MESA Seminar) University of Chicago, 1980.

Brookover, W. B., Beamer, L., Efthim. H., Hathaway, L., Lezotte, L., Miller, S., Passalacava, J., & Tornatzky, L. Creating effective schools. Holmes Beach Florida: Learning Publications, Inc., 1982.

Brophy, J. Teacher praise: A functional analysis. Educational Researcher, 1981, 51 (1), 5-32.

Ellison, R., Nelson, D., Guest, C., & Fox, D. Utah statewide educational assessment general report. Utah State Office of Education, 1981.

Evertson, C., Anderson, L., & Brophy J. Texas junior high school study: Final report of process-outcome relationships. Research Report 1978, 4061 (1). Research and Development Center for Teacher Education, The University of Texas, Austin, Texas.

Froh, R. and Guida, F. Affective outcomes of education. In Bloom, B. S., The State of Research on Alterable Variables in Education. (MESA Seminar) University of Chicago, 1980.

Muraki, E., & Waley, T. Affective entry characteristics. In Bloom, B. S., The State of Research on Alterable Variables in Education. (MESA Seminar) University of Chicago, 1980.

Rutter, M., Maughan, B., Mortimore., Ouston, J., with Smith, A. Fifteen thousand hours: Secondary schools with their effects on children. Cambridge, Mass: Harvard University Press, 1979.

10. REWARDS FOR ACHIEVEMENT

Introduction

Although giving rewards for achievement would seem to be an "obvious" strategy for improving student performance, there are a number of elements involved which need to be considered to make this strategy fulfill its potential. Among the elements which need to be clarified are the identification of what exactly constitutes a reward, under what circumstances and with which audiences. By and large, the directions presented in this summary are suggestive and rather prescriptive because the knowledge base is still far from complete. Nevertheless, teachers and administrators may be able to draw inferences from the information presented and allow themselves to experiment with some of these concepts in order to enhance the academic performance of their students.

Operational Definition

Defining exactly what is meant by a reward points up one of the significant problems with the analysis of this variable. While the concept of "reward for achievement" remains a generality, there exists a substantial body of literature which endorses this variable. However, when specific applications are identified, then there no longer exists a consensus of opinion. The Colorado Department of Education identified the following as minimum behaviors on the part of teachers and administrators to demonstrate that this variable is being implemented in a school. However, the reader is warned that this set of minimums will likely differ significantly from any other "prescriptive" set of behaviors utilized by other writers to describe this variable, therefore the reader needs to exercise caution in adopting any particular set of descriptors.

1. There is ample use of rewards, praise and appreciation of all students.
2. The teacher takes opportunities to praise all students for success during instruction.
3. There are current displays of student work on bulletin boards and learning areas.
4. Teachers treat students in ways which emphasize success rather than those which focus on failures or shortcomings.
5. Low achieving students receive as much praise as high achievers.
6. The staff share ideas for recognizing student performance.

It is suggested that a prudent course might be for teachers and administrators in a common setting to review the various operational definitions which have been given of this variable and then generate their own agreed-upon set of descriptors and behaviors which would apply in their local setting.

Identification of Key Studies Relating to the Process

Walker and Hops (1976) gives a good overview of the principle work on type of reinforcers and resulting effects on classroom behavior and academic performance. Brophy (1980) also provides a good summary of the research on teacher praise and Brookover, et al, (1982) offers a chapter on ways to reinforce achievement.

Evaluation of the Quality of Research Dealing With the Process

There are three research traditions which have governed the exploration of this variable. One tradition is found in the educational psychology and social psychology literature, where experimental interventions take place in a laboratory setting. This literature has sought to identify elements which, when reinforced, lead to increases in appropriate classroom behavior, as well as increases in student academic performance.

Some of the demonstrated effects of reinforcement techniques are increases in students' study and appropriate classroom behavior (Lipe and Jung, 1971) (Chadwick and Day, 1971). Other reported findings include significantly greater academic gains (over controls) when academic performance and facilitative personal and classroom behaviors are reinforced, singly or concurrently (Wolf, Giles, and Hall, 1968) (Cobb, 1972), Walker and Hops (1976) attempted to discriminate between types of interventions most likely to increase academic achievement and/or performance. They found that all three experimental interventions: (a) directly reinforcing academic performance, (b) reinforcing specific non-academic classroom behaviors, and (c) reinforcing both types of responses concurrently) significantly increased the proportion of appropriate classroom behavior as well as achievement levels in reading and math. However, they found no significant differences among experimental treatments. The authors conclude that reinforcing either direct academic performance or appropriate classroom behavior (or both simultaneously) increased the behavior being reinforced and in addition, appeared to have a facilitative effect on the other related response.

The quality of the research in this tradition appears to be quite good, and the findings do suggest promising directions although care must be employed in assessing transferability from a laboratory to regular classroom setting and thus the generalizability of the findings.

The second tradition is found in the "effective schools" literature and utilizes as its prime methodologies, process-outcome studies, and case studies. Process-outcome studies have been criticized because of the methodological problems involved in multiple regression analyses which are at the core of these studies, while case studies have limited samples and as a result often have limited generalizability. Nevertheless, the "effective schools" research suggests that there are a number of positive outcomes related to this concept. Mackenzie (1983) in his summary of the literature states that "efficacy in the classroom is stimulated by visible rewards for attaining achievement goals, combined with a variety of teaching strategies for achieving those goals [p. 10]." He also notes that reward systems in which students at different levels of initial ability compete against their own prior performance have been found to be helpful to students. Berliner (1982) stated that "There is . . higher achievement in classes . . where there is present an orderly environment . . focused on achievement [which] holds students accountable for achievement and rewards [p.]." Brookover and Lezotte (1977) reported that immediate and unambiguous reinforcement of students' response was generally in evidence in the "high achieving" schools, while there was confusion in how and when to reinforce responses in the "low achieving" schools. Brookover, et al, (1982) differentiates between two types of reinforcers which can be delivered: tangible and social rewards. Tangible rewards can range from the provision of snack treats to more complex token economics (e.g. points or check marks which can be "traded in" at a later time) to symbolic rewards such as certificates of merit, trophies, etc. Social rewards center upon teacher praise. Rutter (1979) reported that student effectiveness was enhanced by the use of praise, rewards and appreciation. Rutter echoed Brookover when he stated that immediacy of praise was found to be especially useful in enhancing student performance.

In comparing "good" and "weak" schools on the use of rewards for reinforcement, Wynne (1981) noted that while "good" schools use a wide variety of incentives for learning, some "weaker" schools also utilize these same strategies.[1]

---

[1] Among the rewards employed most frequently are: honor rolls, honor societies; awards assemblies, mention of accomplishment in student or local newspapers, publication of class standings, posting of photographs of achieving students, the awarding of badges, pens or ribbons, etc.

However, the key difference appears to be the greater amount of resources and energy that "good" schools dedicate to recognition systems. According to Wynne, "good" schools "give recognition in a conspicuous and attractive fashion."

However, there are some problems to be aware of related to the use of praise and rewards. The link between teacher praise and teacher-held expectation of students has been noted by Brophy and Good (1970) who reported that students for whom teachers held high expectations were more frequently praised when correct and less frequently criticized when wrong or unresponsive than students for whom teachers had low expectations. Ornstein and Levine (1981) commented that while praise can be a positive reinforcer, it can also have neutral or negative effects for some students. As an example the authors state that praising a student may have little or not impact if the student feels that the praise is undeserved, or if the teacher's actions (non verbal cues) are vastly different from his or her words. Brophy (1980) reviewed the research on the use of teacher praise to reinforce good behavior and academic performance and found that praise frequently failed to reinforce positive behavior or increase achievement. Furthermore, Brophy suggests that praise can be harmful when it displaces accurate feedback about the quality of poor performance.

The third research tradition of importance to this area deals with the body of work done in experimental and social psychology on the schedule of reinforcement which result in securing a subject's response. There are significant data to show that the power of a reinforcer to produce and maintain a given (desired) response is diminished if the reinforcement is given too frequently (e.g., after every "correct" response). These data support the conclusions reached by Kash and Borich who found that while teacher praise was positively correlated with academic achievement for students of low socio-economic background, it had either no relationship or a negative correlation with the achievement of high-status students. The researchers speculated that this pattern may occur because students who receive a great deal of praise for successful performance come to take it for granted, while students who have not been performing at a higher level are favorably affected by the positive teacher response.

To summarize, a variety of research traditions drawing from experimental, social and educational psychology as well as from the effective schools literature, have investigated elements related to the variable of "reward for achievement." Positive reinforcement has been found to be related to increased academic achievement and classroom behavior, especially for students from low socio-economic levels. However, the strategy can be over used and thus lose its power to effect behavior change. There is ample correlational data indicating that schools performing above-norm tend to have climates which support and encourage student performance through the provision of a variety of rewards for achievement. There are also suggestions that the timing of the reward is an important variable in producing the desired increases in academic performance.

Judged Potential for Classroom Implementation Without Special Resources

Although appropriate reinforcement practices could be implemented without need for special resources by teachers knowledgeable of the process, classroom implementation will likely hinge on the provision of inservice to faculty and upon the creation of a school-wide context for rewarding student excellence. Thus, the potential for ready implementation by a majority of teachers without special resources or activities is considered low.

Special Resources Required to Implement the Process

The provision of staff in-service in the appropriate uses of praise and other reward mechanisms is recommended. Additionally it is recommended that staff and consultation time be provided to assist school faculties to define in operational terms the behaviors and/or activities which will be employed in recognizing student achievement. Finally, peer and/or supervisory review and feedback could be provided to faculty members to enhance their skills in this area.

Summary of Research Documented Benefits of Implementation of the Process

Careful use of positive reinforcement has been found to result in significant gains in academic achievement and appropriate classroom behavior. The data on other types of external rewards (e.g., plaques, honor rolls, etc.) and their value in increasing academic achievement is less conclusive. There is a substantial body of literature which documents a relationships between the rewards for use of achievement and the overall "effectiveness" of the school as measured by mean student performance.

There are a number of possibilities for implementation of this process variable in a school and classroom setting ranging from the simple to the complex depending on teacher/faculty/administration knowledge, commitment, and financial capability. Certainly the data presented in this review suggests the advisability of implementing a deliberate program of teacher praise/reward/recognition following the provision of appropriate training for all staff.

REFERENCES

Berliner, D. C. The executive functions of teaching. Paper presented at the wingspread conferences on related reading research to classroom instruction to wingspread. Racine, Wisconsin: March 12-14, 1982.

Brookover, W. B., Lezotte, L. W. Changes in school characteristics coincident with changes in student achievement. 1977.

Brophy, J. E. Teacher praise: A functional analysis. Review of Educational Research, 1981, 51 (1), 5-32.

Brophy, J. E., and Good, T. L. Teacher's communication of differential expectations for children's classroom performance: Some behavioral data. Journal of Educational Psychology, 1970, 61 (5), 365-374.

Chadwick, B. A., and Day, R. C. Systematic reinforcement: Academic performance of underachieving students. Journal of Applied Behavior Analysis, 1971, 4, 311-319.

Cobb, J. A. Relationship of discrete classroom behaviors to fourth grade academic achievement. Journal of Educational Psychology, 1972, 63 (8), 74-80, Sp. 1982.

Colorado Department of Education. Indicators of quality schools. Denver, Colorado: School Improvement and Leadership Services Unit, 1982.

Kash, M. M. and Borich, G. D. Teacher behavior and pupil self-concept. Reading, Mass: Addison-Wesley, 1978.

Lipe, D. and Jung, S. M. Manipulating incentives to enhance school learning. Review of Educational Research, 1971, 41, 249-280.

Mackenzie, D. E. "Research for school improvement: An appraisal of some recent trends." Educational Researcher, April 1983, 5-17.

Ornstein, A. C. and Levine, D. V. Teacher behavior research: Overview and outlook. Phi Delta Kappan, 1982, 63 (8), 523-526.

Rutter, M., Maughan, B., Mortimore, P., and Ousten, J. Fifteen thousand hours. Cambridge, Mass.: Harvard University Press, 1979.

Walker, H. M. and Hops, H. "Increasing academic achievement by reinforcing direct academic performance and/or facilitative non-academic responses." Journal of Educational Psychology, 1976, 68 (2), 218-225.

Wolf, M. M., Giles, D., and Hall, R. V. Experiments with token reinforcement in a remedial classroom. Behavior Research and Therapy, 1968, 6, 51-64.

Wynne, E. A. Looking at good schools. Phi Delta Kappan, 1981, 62, 377-381.

11. TEACHER QUESTIONING PRACTICES

Introduction

Teacher questioning has been considered an important part of learning as early as Socrates and as recorded by Plato (Redfield and Rousseau, 1981). It is, therefore, not surprising that much of the current literature on effective schools identifies teacher questioning practices as a key classroom process (Stevens and Rosenshine, 1981; Kash and Borich, 1982). At both elementary and secondary levels, effective teachers maintain high levels of verbal interaction with their students. This interaction is generally in the form of teacher questioning/student response since this is the most commonly used strategy for assessing and extending student learning in the classroom (Weaver, 1978; Durkin, 1979).

Operational Definition

Asking questions appears to serve two general purposes: (1) It is a check to see if students understand what is being taught; and (2) it is an attempt to influence or stimulate the cognitive processes in students. However, most teachers use questioning as a tool for assessing pupil learning, consequently a high percentage of the questions teachers ask call for product (fact or memory) type student answers than process (thought or explanation) responses (Weaver et al, 1978; Durkin, 1979; Redfield and Rousseau, 1981).

Basically, there are two teaching behaviors involved in classroom questioning practices--initiating and responding. Initiating behaviors are those that cause or invite some action by students; and responding behaviors are those ways in which the teacher reacts to the students' answers (Costa, 1977). While some of the research data conflict, there is professional consensus in identifying the following behaviors as crucial variables (Rowe, 1974; Weaver et al, 1978; Rosenshine and Stevens, 1981):

A. Initiating Behaviors

1. Quality of the questions formulated and posed by the teacher, i.e., the level of cognitive thought required on the part of the student in order to answer the question; the appropriateness of the question, for a particular student or group, so that a high percentage of successful answers are assured.

2. Frequency and distribution of teacher questions, i.e., number of academic interactions per minute, number of opportunities for students to respond, amount of time spent in the question/answer format, and how questions are designated to assure equal opportunities for various class members to respond.

3. Timing of questions, i.e., the effect of posing of questions prior to the reading assignment or lecture compared to that of post-questioning.

B. Responding Behaviors

1. Amount of wait-time, i.e., the length of time the teacher allows before restating the question, providing help, or giving the correct answer.

2. Teacher response to both correct and incorrect answers given by individual students or groups.

3. Amount of teacher praise or approval behavior for student participation and responses.

4. Ability of the teacher to modify expectations upward for low ability students.

Two other terms found in the literature--higher and lower cognitive questions--are defined as follows for the purpose of this paper: Higher cognitive questions require pupils to manipulate information to create and support an answer with logical evidence. Lower cognitive questions are defined as those calling for verbatim recall or recognition of factual information previously read or presented by the teacher.

It should be noted that the major goal of teacher questioning practices might be to develop self-questioning strategies on the part of students so that they assume this monitoring role during independent study. However, there is no definitive research on how this internalization process occurs and its impact on learning.

Identification of Key Studies Relating to the Process

A number of studies related to this key classroom process variable have been reviewed by USOE staff. Those studies listed in the bibliography were found very useful in the analysis of teacher questioning practices and are recommended to those persons wishing to pursue more information.

Evaluation of the Quality of Research Dealing With the Process

Innumerable studies have been conducted related to teacher questioning practices, particularly during the past decade. While the quality does not match the quantity, there is surprising congruence of some of the characteristics that make for more effective learning. Admittedly, much of the research has involved small sample sizes (Tobin, 1981) and the majority of studies have been conducted at the elementary level (Cuban, 1983). Indeed, most of the related research has been limited to the primary grades and even pre-school classrooms (Brophy, 1979).

On several issues, major authors report conclusions that appear to be in direct conflict (Stevens and Rosenshine, 1979; Brophy, 1979; Durkin, 1979; Redfield and Rousseau, 1981). However, a closer analysis of the literature suggests this does not necessarily reject the validity of the research as much as it supports the premise that certain teacher questioning practices elicit different, although not necessarily less desired, responses from students and groups of students. This reviewer felt the research is quite consistent in concluding that students seem to learn what they have practiced.

Judged Potential for Classroom Implementation Without Special Resources

While there is some disagreement about the effectiveness of some teacher questioning practices reported in the literature, there is professional consensus that teachers can and should consciously formulate and pose questions that correspond to the desired, if different, levels of cognitive thought processes in their students (Cole and Williams, 1973). It is the responsibility of the teacher to identify what the desired behavior is and develop questions that tend to elicit this.

Listed below are the most critical teacher questioning practices supported by the research:

1. More effective teachers of both high and low socio-economic status students gauge questions at an appropriate level of difficulty, one where a particular pupil is most likely to be successful.

2. Since there is a positive correlation between the frequency of academically-focused convergent questions and reading and math achievement, teachers need to allocate time daily for this type of direct interaction.

3. Because there is a positive correlation between reading achievement and opportunities to respond to teacher questions, teachers need to develop a system for selecting students to answer specific questions. Ordered turns appeared to be a better pattern for assuring equal distribution than accepting voluntary responses or calling on students at random.

4. Improved reading scores resulted where students had a high percentage of correct responses given rapidly and automatically; therefore it is suggested a reasonable benchmark for teachers to aim for would be a success rate of 80% during instruction and 90% at the end of the lesson. This is particularly important on mastery of basic skills.

5. Eliciting individual responses is more effective except when group response is done in unison, or where a group response provides a less threatening environment for the low responding student and enables him or her to participate.

6. When an incorrect answer is given, the best teacher practice would be to rephrase the question or give a clue as to how the student might arrive at the correct answer. This supportive climate is particularly important with low achieving secondary students. More effective teachers persist in using different strategies until the correct answer is given.

7. There is a negative correlation between achievement and the practice of giving the student the correct answer and then moving on to another student, yet this was the most common teacher behavior observed in classrooms.

8. Teachers need to increase "wait-time" between questions, or other comments, particularly when working with low-achieving students. Studies indicate teachers allow twice as much time for high performing students to respond than for lower level students. Teachers extending wait-time to three seconds or more elicited longer answers, increased nonverbal students' participation, improved student-to-student comparison of data, and generated more creative yet appropriate answers.

9. Studies suggest that when questions are asked before material is read or presented, students tend to narrow their comprehension to finding answers (etc.) to the questions. When questions follow reading of relevant material, students learn and remember better the total scope of the material. Prequestions appear to increase the students' learning of specific information, but post-questions aid in a broader, more analytic comprehension. Teachers need to determine which behavior is appropriate for different learning tasks and schedule questions accordingly.

10. Several reputable studies found that higher-ordered questioning is negatively related with pupil achievement across socio-economic levels, elementary grade levels, and subject matter; however other research suggests that asking only literal, convergent questions misleads students into thinking that the purpose of learning is to be able to memorize factual information. Both Rosenshine and Durkin conjecture that the higher ordered questioning is not correlated to increased achievement because teachers do not model the behavior needed in order to answer such questions correctly. There is no "demonstration phase" in reading as there is routinely provided in math instruction, where the teacher literally shows the student "how" to solve the problem.

11. Another review of the related literature indicates that where teachers had had specific training in how to formulate questions of a higher cognitive level and systematically implemented this practice into their classrooms, gains in achievement could be expected. Perhaps the key here is to recognize the importance of appropriate inservice training for teachers and providing time in the schedule to make sure the desired practice is implemented.

While teachers are encouraged to ask more higher-level questions, there is no solid evidence to support this practice, nor do we know the reason for this discrepancy in theory and reality. We do know that direct teacher-led questioning that results in rapid and accurate convergent answers is positively correlated to basic skill mastery, particularly at the primary levels (Stevens and Rosenshine 1981). Additional research is needed to determine the validity of such teacher questioning practices as they relate to achievement on more analytical measures such as the college entrance examinations.

Special Resources Required to Implement the Process

Almost all of the research-supported practices listed above could be implemented in individual classrooms and total school systems. Rather than requiring special resources and additional funding, improvement in teacher questioning practices could be accomplished through a rechanneling of time and emphasis. Schools might select this as a school-wide objective since it has application across grade levels and subject matter. However, those who have attempted to change teacher behavior in the past recognize this is a simplistic assumption.

Awareness of the principles supported in the literature is a beginning step. Next would be to identify teachers who are successful in implementing the practices on a regular basis and video-tape them working with their students in the classroom. In this way, teachers wishing to improve their questioning strategies would have a model to follow and perhaps improve upon.

As with any changes in human behavior, there must be intrinsic motivation in order to maintain the desired practice. Teachers must see the improvement in the skill acquisition of students, whether it is measured on standardized tests or by the quality of their verbal and written responses and other intellectual behavior.

In addition, since neither peers nor administrative staff have the time to observe in the classroom and provide feedback to the teacher on "wait-time" and other related practices, the teacher must assume a self-monitoring role related to changing their behavior. When one receives no information as to whether or not a change in practices has been successful, it is easy to revert to old methods.

Classrooms are isolated workplaces subject to little organizational influence, where teaching and learning are relatively free of "serious" evaluation.

Crandall warns that without face to face disseminators, it is doubtful there will be any implementation of key classroom processes. The teachers affected by instructional change efforts are being asked to learn a fairly complex cluster of skills. They need a person whose function in part is guiding them through the experience (Hutchins, 1983).

REFERENCES

Bozsik, B. E. "A study of teacher questioning and student response interaction during pre-story and post-story portions of reading comprehension lessons." Paper presented at American Educational Research Association annual meeting, New York, March 1982.

Brophy, J. E. "Teacher behavior and student learning." Educational Leadership, October 1979, 33-35.

Cole, R. and Williams, D. "Pupil responses to teacher questions: Cognitive level, length and syntax." Educational Leadership, November 1973, 142-145.

Costa, A. "Recent research on the analysis of instruction." Phi Delta Kappan Newsletter, June 1977.

Cuban, L. "Effective schools: A friendly but cautionary note." Phi Delta Kappan, June 1983, 695-696.

Durkin, D. "What classroom observations reveal about reading comprehension instruction." Reading Research Quarterly, 1979, 14, 481-533.

Kash, M, and Borich, G. D. "Teacher variables that make a difference." Improving Educational Standards and Productivity, edited by Walberg, H. J., McCutchan Publishing Corporation, 1982, Chapter 3, 49-84.

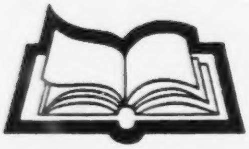
Redfield, D. and Rousseau, E. "A meta analysis of experimental research on teacher questioning behavior." Review of Educational Research, Summer 1981, Vol. 51, 2, 237-245.

Rowe, M. "Wait-time and rewards as instructional variables: Their influence on language, logic and fate control." Journal of Research in Science Teaching, November 1974, 81-94.

Stevens, R. and Rosenshine, B. "Advances in research on teaching." Exceptional Education Quarterly, 1981, 2, 1-10.

Tobin, K. G. and Capie, W. "Wait-time and learning in science." AETS Outstanding Paper for 1980, paper presented at the annual meeting of the National Association for Research in Science Teaching, Boston, MA, April 1980.

Weaver, P. and Shonkoff, F. Research within reach: A research-guided response to concerns of reading educators. CEMREL, Inc., St. Louis, MO, 1978, 93-98.



CHAPTER III.

ABSTRACTS OF USEFUL PUBLICATIONS PERTAINING TO THE EFFECTIVE SCHOOLS/CLASSROOM PROCESS LITERATURE

---

* Note: Single copies of each of these publications are kept on file at the State Office of Education. Contact Carla Worthen for further information. Telephone: (801) 533-5330

CONTENTS

Page

American Association of School Administrators
Time on Task 105

Berliner, D. C. The Executive Function of Teaching. 107

Bloom, B. S. The State of Research on Selected
Alterable Variables in Education 109

Brandt, R. S. Effective Schools, Effective Teaching 111

Brookover, W. B., et al. Creating Effective Schools 113

Colorado Department of Education. Indicators of Quality
Schools / Overview 115

Denham, C., Lieberman, A. Time to Learn. 117

Hutchins, C. L. Quality Schools: A Review of the Research
on Effective Schools and Effective Teaching. 119

Kash, M. M., and Borich, G. D. Improving Educational
Standards and Productivity 121

Mackenzie, D. E. Research for School Improvement: An
Appraisal of Some Recent Trends. 123

Purkey, S. C., & Smith, M. S. Effective Schools, A Review . 125

Rutter, M., et al. Fifteen-Thousand Hours: Secondary
Schools and Their Effects on Children. 127

Weber, W. A., et al. Classroom Management: Review of the
Teacher Education and Research Literature. 129

Title:	Time on Task
Author:	American Association of School Administrators
Date of Publication:	1982
Type of Publication:	Monograph
Publisher:	American Association of School Administrators
Number of Pages:	77

Description of Content

This monograph provides a rather straightforward, easy to read introduction to the research on academic learning time. The document is an excellent orientation for both teachers and administrators to a variety of topics central to the academic learning time concept, as well as supportive topics such as classroom management, student grouping, direct instruction, expectations, and mastery learning. An appendix to the monograph provides suggestions on how a program for increasing time on task might be implemented within a particular school or district. Also included are check lists and observation forms which might well form the measurement basis for efforts of these kinds.

Perhaps the single most useful aspect of this little book is its easy-to-follow coverage of a variety of topics which are central in the effective schools literature. It is a practical piece of work and will be appreciated by educators who desire an intelligible overview of academic learning time and related processes.

Title:	The Executive Function of Teaching
Author:	Berliner, D. C.
Date of Publication:	1982
Publisher:	NA
Type of Publication:	Paper presented at the American Educational Research Association, New York City, 1982.
Number of Pages:	51

Description of Content

This paper is a systematic examination of the relationships between the executive and management functions in teaching and analogous functions in industry. The author's major thesis is that the managerial functions of teaching and those of the business executive are really very similar and compatible and that studying this analogy can lead to the enhancement of teaching as a profession and positive academic outcomes for students.

Berliner provides the following overview of this work:

> The origins of the author's interest in executive and management skills in teaching is described first. This is followed by an analysis of the unfortunate history of the relationship between business management and education. Presented next is a description of current conceptions of management and the role of executives in today's business world. The fourth, and largest section of this paper, presents a review of some recent research on teaching. An emphasis is placed on the similarities between a teacher's role and the role of an executive. The executive functions performed by teachers are highlighted. The compatibility of a conception of "the teacher as an executive" with both educational thought and contemporary cognitive psychology is noted. The last section of this paper presents the implications of this kind of analysis of teaching for the training and supervision of teachers. Despite some dangers, it is concluded that the teaching profession could be enhanced by a serious examination of the conception of teachers as executives.

This paper provides excellent insight into the very real relationship between business and classroom management. It is probably one of the first attempts to examine this area in a systematic way and provides a very refreshing piece of insight for both teachers and administrators. The references are rather comprehensive in dealing with both the so-called effective schools literature as well as the literature dealing with certain aspects of managerial performance and effectiveness.

Title: The State of Research on Selected Alterable Variables in Education

Author: Bloom, B. S.

Date of Publication: 1980

Type of Publication: Monograph

Publisher: University of Chicago, Department of Education

Number of Pages: 123

Description of Content

This volume was produced from the University of Chicago's Measurement, Evaluation, and Statistical Analysis (MESA) seminar during 1980. It provides an overview of factors in the educational setting which are subject to change and have demonstrated relationships to educational outcomes. This is one of the first major works to contrast alterable and non-alterable variables in discussing the impact of classes of variables on educational outcomes. The volume includes eight chapters, each of which deals with a particular class of factors which might be changed in the school environment to positively impact on achievement. Each chapter also includes a selected bibliography of the key publications which describe the most relevant and current research on a particular topic. Also included in each chapter is a discussion of the types and quality of measurement techniques currently used to gauge the existence of a particular variable.

Topics included in the monograph include the following:

(1) An overview on alterable variables
(2) Home environmental influences on school achievement
(3) The effect of cognitive entry behaviors on school achievement

(4) Affective entry characteristics
(5) Time on task and school achievement
(6) The alterability and measurement of learning rate
(7) Affective outcomes of education
(8) The improvement of learning through the use of underlying principles and schema

Title: Effective Schools, Effective Teaching (An issue of the journal, Educational Leadership devoted to the effective schools research)

Editor: Ronald S. Brandt

Date of Publication: 1979

Type of Publication: Journal articles

Publisher: Association for Supervision and Curriculum Development

Number of Pages: 60

Description of Content

This issue of Educational Leadership features articles by authors such as Gilbert Austin, Ronald Edmonds, Jere Brophy, and Madeline Hunter. This collection of articles is a particularly broad sampling of the perspectives of researchers and educators who have been important forces in research and implementation of the effective schools literature.

The articles by both Austin and Edmonds delineate a set of characteristics which those authors have found to be descriptive across numerous studies of high achieving schools. Jere Brophy examines the issue of effectiveness from the standpoint of classroom processes and notes several major elements which appeared to characterize successful classroom practices. Brophy concludes his article with a rather prescriptive "nuts and bolts" list of specific practices for teachers based on his analysis of the research.

These and the other articles in this issue of Educational Leadership make this issue of that journal a useful collection of readable articles dealing with important effective schools/classroom processes issues.

Title: Creating Effective Schools

Authors: Brookover, W. B., Beamer, L., Efthim, H. Hathaway, D., Lazotte, L., Miller, S., Passalacqua, J. and Tornatzky, L.

Date of Publication: 1982

Type of Publication: Book

Publisher: Learning Publications Inc., P.O. Box 1326,
Holmes Beach, Florida

Number of Pages: 290

Description of Content

This volume is intented to be a guide for a staff development program in schools who wish to improve the academic achievement of students through changes in the school learning environment. The various strategies outlined in the book are products of rather extensive pilot test carried out in the Pontiac, Michigan public schools.

The book is organized as a set of learning modules and includes the following module titles:

Module 1. An effective school learning climate
Module 2. Expectations for learning
Module 3. Organization, role-definitions and rewards
Module 4. Grouping and differentiation
Module 5. Effective instruction
Module 6. Academic engaged time
Module 7. School discipline and classroom management
Module 8. Student team learning: A cooperative learning model
Module 9. Reinforcing achievement
Module 10. Use of assessment data for school improvement
Module 11. Parent support and involvement

Each of these modules presents an overview of research findings pertinent to the area, as well as specific activities for a school staff and the identification of additional related resources. The volume draws on a very broad spectrum of the effective schools research and has the additional merit of representing an integrated total program approach to implementing much of what is known about effective schools. This book would appear to have relevance for school improvement efforts at either the district or school level.

Title:	Indicators of Quality Schools / Overview
Author:	Colorado Department of Education
Date of Publication:	1982
Type of Publication:	Paper Presented at the June 1982 National Assessment Conference on Large-Scale Assessment, Boulder, Colo.
Publisher:	Colorado Department of Education, Denver, Colo.
Number of Pages:	11

Description of Content

This brief paper provides an overview of the Colorado school improvement effort. Described is a measurement system which is based on Colorado's analysis of the effective schools literature. Also provided is a framework developed by the Colorado Department of Education which analyzes eleven major effective schools studies and identifies the major common elements in those studies. The dimensions identified in the Colorado effort include assessment, leadership, expectations, norms and policies, climate, monitoring, time, classroom organization and management, instructional effectiveness, curricular congruence, school building planning, and parent involvement.

This document is a brief introduction to the rather extensive survey form developed by the School Improvement and Leadership Services unit of the State of Colorado Department of Education. It provides a rather concise look at not only samples of items and the structure of the instrument, but a possible process a school could go through in identifying aspects of quality schools which are particular pertinent to that school.

Title:	Time to Learn
Authors:	Denham, C. and Lieberman, A. (Co-editors)
Date of Publication:	1980
Type of Publication:	Book
Publisher:	The National Institute of Education/U.S. Government Printing Office
Number of Pages:	246

Description of Content

This book is a major product resulting from the Beginning Teacher Evaluation Study (BTES) and describes the methodology, results and implications of that six-year study. The following is the editors' synopsis of the content of the book:

> A major contribution of the study is its focus on academic learning time (ALT) as a measure of learning. ALT is the amount of time a student spends engaged in academic tasks of appropriate difficulty. It is not surprising, perhaps, that the study found that ALT related to student achievement. But on visits to classrooms, one is likely to see students spending large amounts of time not engaged in learning.
>
> The notion that students should be observed to see how much time they spend learning is an idea perhaps neglected by teachers or by those who evaluate or comment on teaching. The BTES research implies that it is not only possible, but also important to look at academic learning time. A teacher who observes his or her own classroom with ALT in mind may see new solutions to teaching problems. When educational questions such as group versus individual instruction are considered in light of ALT, new perspectives may emerge. This book explores these and other implications of the Beginning Teacher Evaluation Study.
>
> . . . . For a variety of reasons the study began to focus on second and fifth grade mathematics and reading and on experienced rather than beginning teachers. As a result, the study provides

the most comprehensive effort to date describing teaching and learning in these grade and subject levels.

. . . . Perhaps the greatest BTES contribution may be that it reveals a much clearer picture of instruction and its consequences that was available heretofore. Thus, it provides a better basis on which teachers, administrators, researchers, teacher educators, and others can make decisions regarding their practices and policies.

The book is divided into three parts. The first describes and analyzes the findings of the study and connects them to a growing body of literature on the importance of time as a key influence on learning. The second explores what the study might mean to teacher educators, staff developers, teachers, and principals. The third section moves the research findings into the schools; a teacher and a principal describe how they use the findings. In addition, policy making and decimination are discussed as two essential concerns of large-scale research on teaching and learning such as the BTES. [pps. iii - iv]

Title: *Quality Schools: A Review of the Research on Effective Schools and Effective Teaching*

Author: Hutchins, C. L.

Date of Publication: 1983

Type of Publication: Literature Review/Bibliography

Publisher: Mid-continent Regional Educational Laboratory, Kansas City, Missouri

Number of Pages: 32

Description of Content

This paper is essentially an annotated bibliography of key references in the effective schools literature. Four major dimensions are examined including the social context of schooling; individual, parent, and peer influences; school input; and short-term outcomes. Each of these major categories is broken down into several specific descriptors and these descriptors are further addressed by quotations from the relevant professional literature.

One of the major strengths of this review/bibliography is the attempt of the author to relate specific aspects of the effective schools literature to the conceptual outline described above. The review is balanced in that both positive and negative evidence is cited and major issues in regard to certain variables are highlighted. The paper is exceptional in abstracting the key findings from numerous sources and organizing them in respect to a conceptual framework. This review and bibliography will provide a helpful starting place for those wishing to pursue the effective schools research further.

Title: Summary of the Article "Teachers" from a Chapter of the Same Title in the book Improving Educational Standards and Productivity

Authors: Kash, M. M., and Borich, G. D.

Date of Publication: 1982

Type of Publication: Chapter in the Book Improving Educational Standards and Productivity, Walberg, H.J. (ed.)

Publisher: McCutchen, 1982

Number of Pages: 36

Summary of Content

This paper is an abstract of the chapter cited above. It focuses on the specific aspects of the effective schools literature which pertain to teacher activities which are related to academic achievement. Of particular use in this summary is a matrix which describes several key dimensions of teacher activities and references them to the pertinent literature which confirms their relationship to student achievement. The dimensions of teacher activity summarized in this work include the following:

- Time on Task
- Pupils Attending Behavior
- Direct and Indirect Teaching
- Teacher Questioning Practices
- Teacher Praise
- Evaluative Feedback
- Teacher Controlling Behavior
- Task Structuring Cognitive Development
- Teacher and Pupil Talk
- Classroom Management Practices
- Teacher Practices
- Pupil Self-Concept

This document provides a particulary concise summary of the considerations listed above in terms of key research findings and specific references which document those findings. Perhaps its unique contribution is the specific focus on the teacher as opposed to other factors in the school environment which contribute to academic achievement.

Title: Research for School Improvement: An Appraisal of Some Recent Trends

Author: Mackenzie, D. E.

Date of Publication: 1983

Type of Publication: Journal Article

Publisher: Education Researcher, American Educational Research Association, April, 1983

Number of Pages: 12

Description of Content

This article is an analytic review of the literature on the research on effective schools. In this work Mackenzie has reviewed the most important and recent works in the so called "effective schools" literature and provided a framework to assist in interpreting that literature.

Mackenzie's framework for understanding the dimensions of effective schooling includes three major elements. These are: leadership dimensions, with such core elements as positive climate and inservice staff training for effective teaching; efficacy dimensions, with such core elements as high expectations and rewards for academic excellence; and efficiency dimensions, with such core elements as effective use of instructional time and an orderly and disciplined school environment.

Perhaps a major contribution of this work is its insight into the fact that an effective school is more than simply the sum of "x" number of elements. Mackenzie's comment on this is the following:

> The closer we get to the level of implementation, the more such multi-tiered descriptions of effectiveness are necessary. All the new studies agree that schooling is a complex and

> continuous multi-faceted process that is always conditioned by the history and circumstances of its evolution. As a consequence, no single element of school effectiveness can be considered in isolation from all of the others, or from the total situation from which it is found. The principles of effectiveness may be consistent, but each school must implement them in unique ways. [pg. 8]

Mackenzie's analysis of the effective schools literature provides what is possibly the most recent comprehensive overview on this area with a thoughtful attempt to relate the elements of effective schooling to one another and the overall concept of the effective school.

Title: Effective Schools, A Review
Authors: Purkey, S. C., and Smith, M. S.
Date of Publication: 1983
Type of Publication: Journal article/critical review
Publisher: The Elementary School Journal
Number of Pages: 30

Description of Content

This paper is a recent analytic review of the broad scope of the effective schools research. In examining this body of information, these authors conclude:

> "We find it is weak in many respects, most notably in its tendency to present narrow, often simplistic, recipes for school improvement derived from non-experimental data. Theory and common sense, however, do support many of the findings of school effectiveness research. Building on these, we attempt to integrate this research with recent theories of organizational change and implementation in order to gain a richer, more complex notion of academically effective schools."

These authors do a commendable job of identifying the weaknesses which characterize much of the effective schools research. They also note strong points and have the following observation based on a detailed examination of the literature:

> "Specific criticisms of particular studies and methodologies not withstanding, and disregarding the number of inconsistencies in findings, there remains an intuitive logic to the findings of the above research. Flaws in the original research should not discredit the notion of discovering effective school characteristics -- seeds for school improvement that can be sown elsewhere. However, the opposite approach, blanket acceptance, would be dangerous.

> Having expressed our reservations about the available research and writing on school effectiveness, we, nevertheless, find a substantive case emerging from literature. There is a good deal of common sense to the notion that a school is more likely to have relatively high reading or math scores if the staff agrees to emphasize those subjects, are serious and purposeful about the task of teaching, expect students to learn, and create a safe and comfortable environment in which students accurately perceive the schools expectations for academic success and come to share them."

The authors go on to articulate their own set of characteristics for effective schools and then delineate a change strategy which has potential for implementing what is known about effective schools. In total this review is comprehensive, readable, and well reasoned, and would represent a very valuable resource in any appraisal of the effective schools literature.

Title: Fifteen-Thousand Hours: Secondary Schools and Their Effects on Children

Authors: Rutter, M., Maughan, B., Mortimore, P., Ouston, J., and Smith, A.

Date of Publication: 1979

Type of Publication: Book

Publisher: Harvard University Press, Cambridge, MA

Number of Pages: 285

Description of Content

This volume presents the results of a rather intensive English study of secondary students in the London area. The effort related numerous school and classroom process variables to several outcome variables including student behavior and achievement. This study is one of the few comprehensive treatments of the relationships between school and classroom processes and student outcomes accomplished at the secondary level. The quality of the design of the study and the statistical analysis accomplished also mark this research as worthy of the attention of educators interested in the overall body of effective schools research.

The authors summarize their most important observations from the study as follows:

> First, our investigation clearly showed that secondary schools varied markedly with respect of their pupils behavior, attendance, exam success, and delinquency. This had been observed before, but the demonstration that these differences remained even after taking into account differences in their intake was new. This suggested that, contrary to many views, secondary schools do have an important influence on their pupils behavior and attainments.

Secondly, we found that these variations and outcome were systematically and strongly associated with the characteristics of schools as social institutions. The pattern of findings suggested that the associations reflected a causal relationship. There were indications from previous studies that this might well be the case but it had not previously been systematically demonstrated by comparing different secondary schools.

Thirdly, the research showed which school variables were associated with good behavior attainments, and which were not.

Fourth, the pattern of findings suggested that not only were pupils influenced by the way they were dealt with as individuals, but also there was a group influence resulting from the ethos of the school as a social institution.

We may conclude that the results carry the strong implication that schools can do much to foster good behavior and attainments, and that even in a disadvantaged area, schools can be a force for good.

Title: Classroom Management: Review of the Teacher Education and Research Literature

Authors: Weber, W. A., Roff, A. L., Crawford, J., and Robinson, C.

Date of Publication: 1983

Type of Publication: Monograph

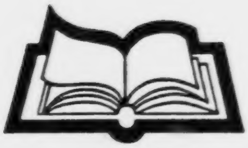
Publisher: Educational Testing Service, Princeton, NJ

Number of Pages 75

Description of Content

The two major papers in this monograph review the professional literature dealing with classroom management. Although the papers were commissioned by ETS as the basis for improving the National Teacher Examination (NTE), the content presented is extremely relevant to anyone examining the classroom management aspect of the effective schools literature. The volume includes a comprehensive bibliography and provides an evaluative framework in which several aspects of classroom management are identified and rated based on the nature of the research evidence which supports or fails to support them. This analysis, which examined authoritarian strategies, behavior modification strategies, group process strategies, instructional strategies, intimidation strategies, permissive strategy, socio-emotional climate strategies, and cookbook strategies, found that the strongest research support existed for behavior modification processes ranging from positive reinforcement to modeling and extinction and group process strategies such as involving students in decision making and employing role playing.

The monograph focuses rather exclusively on classroom management as opposed to instructional strategies and is rather comprehensive in dealing with this major dimension of classroom process.



CHAPTER IV.

RESEARCH FOR SCHOOL IMPROVEMENT: AN APPRAISAL OF SOME RECENT TRENDS.

DONALD E. MACKENZIE,
MARQUETTE UNIVERSITY

Research for School Improvement: An Appraisal of Some Recent Trends

Donald E. Mackenzie
Marquette University

The Breakthrough in Applied Research on Schools

Some schools do better than others in conveying the basic skills of reading and reasoning to all their students. Successful schools emphasize high and uniform standards of academic achievement, but adopt multiple strategies in response to their particular needs and opportunities. Effective schools identify and acknowledge their own educational problems while acting firmly on the assumption that better solutions can indeed be found. Such schools consistently communicate to staff, students, and parents that they are places for learning, and insist that this commitment be manifest in every classroom.

All this sounds eminently reasonable. But where is the news? It is worth asking, as has Tomlinson (1981), how it is that studies leading to such commonplace, if not banal, generalities can be viewed as a major breakthrough in educational research. Much depends on the perspective of the observer. My own experience of this breakthrough in research on effective schooling is like that of one returning to a familiar town to find that the whole landscape has changed. What to those on the scene must have seemed a slow and often imperceptible evolution has created a whole new world to be explored.

In the aftermath of the hopeful 1960s that same landscape looked as bleak and fuzzy as Mariner's snapshots from the surface of Mars. The most exhaustive studies of school resources and their impact (Coleman et al., 1966) seemed to show over and over that "schools

---

Donald MacKenzie is Associate Director for Evaluation and Data Collection, Educational Opportunity Program, Marquette University, 1217 West Wisconsin Ave., Milwaukee, WI 53233. Specializations: Social Policy, Educational Policy & Management, Program Assessment.

make no difference" in achievement as compared to family background (Hodgson, 1975). The methodologically purest assessments of programs for the disadvantaged seemed to show repeatedly that "compensatory education has been tried and failed" (Jensen, 1969). Study after study documented the roots of failure in American education (Rist, 1970), and some argued that such pervasive and systematic patterns of school failure compelled a vision of the educational system as a tool for reproducing an unequal class structure (Bowles & Gintis, 1976). Finally, the most comprehensive and authoritative review of educational intervention studies (Averch et al., 1974) concluded that no particular strategy for improving education was effective enough to guide any national policy on schooling.

Since that time, without controverting the original evidence for such conclusions, more recent research has raised profound challenges to the deep pessimism of their tone. Earlier findings remain substantially intact (Mosteller & Moynihan, 1972; Purkey & Smith, 1982), but something else has slipped in through a side door. All along, some researchers had been looking at schooling as an open-textured process of instruction and learning rather than a closed system for the distribution of limited outcomes (Jackson, 1968; Leacock, 1969). Thanks in part to the spirited debates over negative findings in evaluation research (Cicirelli, Evans, & Schiller, 1970; Hellmuth, 1970; House et al., 1978; Smith & Bissell, 1970), new studies started to look much more carefully at the processes embodied in educational interventions as opposed to the labels and formal prescriptions attached to them (Cooley & Leinhardt, 1980). Research on instruction turned away from conceptions of teaching as a rationally predetermined sequence of steps and toward conceptions of teaching as a developmental interaction with learners. At the same time, instructional research began to show that the attitudes of effective teachers are more important than their attributes (Rosenshine, 1976). New reviews unearthed old evidence that it takes time to learn (Wiley & Harnischfeger, 1974), and further studies suggested that time spent in school may be especially crucial for those who are least exposed to educational resources in their neighborhoods and at home (Heyns, 1978). Others took further steps toward defining the essential aspects of instructional quality (Denham & Lieberman, 1980), and started applying these lessons with some success in the classroom (Good & Grouws, 1979b).

These developments in basic research and in program evaluation grew out of the same disheartening early efforts that still tend to cloud the image of educational research. While studies of teaching "methods" (Gage, 1976) consistently found that instructional labels seldom have very much impact on learning, a more ethnographic focus on teaching, based on close observation of behavior and relationships in the classroom (Carroll, 1964; Cicourel et al., 1974; Flanders & Nuttall, 1972; Henry, 1957; Lightfoot, 1978; Mehan, 1979), reinforced by experimental and field-based studies in the social relations of schooling (Boocock, 1973; Cohen, 1972; Epstein & McPartland, 1976; Guskin & Guskin, 1970; Morrison & McIntyre, 1972; Roberts, 1971; Rosenthal & Jacobson, 1968; Williams, Whitehead, & Miller, 1972) gave rise to a new generation of research on teaching in which classroom organization and behavior are the key elements (Brophy & Evertson, 1976, 1981; Brophy & Good, 1974). The resulting conclusions about effective teacher-student relationships cut across differing methods of instruction and forms of classroom organization.

In a parallel fashion, after a string of disappointments in the evaluation of compensatory programs, many researchers began focusing strongly on the variations in process and implementation within educational innovations (Kiesling, 1971b; Mann, 1978; Soar & Soar, 1972; Stallings, 1975; Stallings & Kaskowitz, 1974). This methodological shift from the cover of the book to its contents is complemented by the evolution of process models similar to Carroll's (1963, 1977) model of school learning. As refined by others such as Bloom (1976), or Cooley and Lohnes (1976), process models provide a flexible theoretical base for program evaluation (Cooley & Leinhardt, 1980) and for the study of teaching (Denham & Lieberman, 1980). Constructs such as learning time, readiness, and likelihood of success help to specify the "alterable variables" within the school environment (Bloom, 1980). Without losing their commonsense meaning, constructs of this kind can generate a variety of operational definitions for hypothesis-testing research; in turn, those definitions that work best in predicting achievement serve to sharpen and refine commonsense perceptions of effective teaching. Thus, the process model of academic learning time that grew out of the National Institute of Education's Beginning Teacher Evaluation Study can be applied to a variety of classroom situations, not as a recipe but as a guide for the clinical judgments of practitioners (Anderson, 1982; Lasley & Wayson, 1982; Muir, 1980).

This increasingly rich web of research on the process of teaching and learning furnishes a new context for thinking about the school as a total learning environment. By itself, though, research on effective instruction might not have provided the leadership stimulus needed to galvanize educators into decision action for school improvement. The issue of leadership as developed in schoolwide case studies (Phi Delta Kappa, 1980; Rutter et al., 1979, Weber, 1971) played a catalytic role in what is felt to be the breakthrough in effective schools research. Weber's 1971 study was consciously designed to overcome an attitude of fatalism about school achievement and to demonstrate that school leaders could indeed boost the reading achievement of disadvantaged urban children through a consistent, schoolwide emphasis on the basic skills. Later, more quantitative studies have sought to test the validity of these and similar conclusions against various measures of school effectiveness, and to assess variations in the climate for achievement across a representative population of schools (Brookover et al., 1979; Edmonds & Frederiksen, 1978; Kiesling, 1971a; Klitgaard & Hall, 1973; Madaus et al., 1980).

Despite the value of more rigorous studies, it is precisely the intuitive appeal of case studies in school leadership that has made them so potent. Because such studies deal with the school as a whole, and view schooling as a complex and dynamic activity within a concrete and historically changing situation, such studies appeal directly to the common sense and the daily experience of working educators. It is no coincidence that much of this research grew directly from the concerns of state and district boards (Acland, 1979; California State Department of Education, 1977; New York State Department of Education, 1974; Venezky & Winfield, 1970), and that their results are being translated with remarkable speed into action for school improvement at the district level (Denham & Lieberman, 1980; Hathaway, 1982; McCarthy, Lazarus, & Conner et al., 1980; Minneapolis Board of Education, 1981). Nor is it an accident that leading researchers on school effectiveness have embraced an openly activist role as educational advocates (Edmonds, 1981, 1982) and moved with perhaps unseemly haste to translate research findings into prescriptions for action (Brookover et al., 1983). Such postures may cause some discomfort among those with a more Olympian view of the role of research and scholarship. But if the new research on school effectiveness holds any special promise for transforming actual practice, it lies in the straightforward effort to revive feelings of optimism among school administrators and classroom teachers, and to encourage a new sense of efficacy and purpose in education.

If these school improvement efforts offered a "quick fix" of easy solutions to the complex problems of elementary and secondary education, if they were not so deeply rooted in common sense, and if they were supported only by the small body of existing research on exceptional schools, they might promise little more than another grim day of reckoning for future research and practice. Fortunately, the case study literature does not stand by itself, but is reinforced by the accumulating evidence from descriptive, experimental, and evaluation research on teaching. None of the new studies offer one-shot solutions or surefire recipes for instant success. Rather, if there is a breakthrough toward a renewed sense of efficacy in the schools, it is to be found not in any particular formula for school effectiveness but in the sudden consensus, which has been embraced with almost audible gasps of relief by reviewer after reviewer, that active and committed educational leaders can indeed do something about the conditions for achievement in the nation's schools. What they can do is foster and sustain a more positive climate for academic achievement by hammering out long-range goals, by working patiently and supportively to help teachers implement sound principles of classroom management, and by setting a consistent example of commitment to excellence at all levels. Hard work along these lines should pay off, ultimately, in higher levels of student achievement and performance (Tomlinson, 1981).

In pursuing such strategies, educators will be acting, in large measure, on what they have known all along about how to teach well (Edmonds, 1979a; Powell, 1979). But the basic premises for their commonsense activity can be qualified and selectively reinforced by a large volume of process-oriented research (Denham & Lieberman, 1980). By focusing on the school as a total setting, the studies of exceptional schools have been opening doors for this larger literature, much of which is now being digested into strategic recommendations for school improvement (Hathaway, 1982; Hersh, 1981). The description of positive learning climates developed and published by the Minneapolis Board of Education (1981), for example, might have been lifted directly from the latest reviews of research on teaching (Brophy & Evertson, 1981), and at the same time it incorporates essential principles of mastery learning (Bloom, 1976) and direct instruction (Rosenshine & Berliner, 1978).

Thus, the big news is that the exemplary case studies are only the nose of the camel. Their conclusions about school effectiveness are woven together with a whole tissue of understandings from prior research. Studies that use the exceptional school as a unit of analysis have crystallized an image of the effective school, a design that is not a rigid framework but a vision of possible realities that can be stretched to fit the unique particularities of individual schools. At the same time, disparate and at times conflicting lines of research on schooling have begun to converge in ways that are mutually reinforcing. If the new studies of exceptional schools are finally beginning to influence the general climate of thought toward more positive assumptions about teaching and learning, this is no sudden and transient phenomenon. What is breaking through into our consciousness of effective schooling is the accumulated impact of at least two decades of effort and investment in educational research.

Dimensions of Effective Schooling

The descriptive richness and the closely woven texture of the new applied research on schooling presents several paradoxes for the reviewer. There is broad agreement on the fundamental elements of effective schooling. Major constructs derive support from a variety of sources, such that the validity of many conclusions is stronger than would be warranted by the internal or external controls of any single study. At the same time, there is seldom clear agreement on the precise definition of constructs and variables in school effectiveness. The bright light of consensus around the central elements of a construct fades little by little into gray mists of uncertainty and unanswered questions at the edge. This is exactly the sort of picture one might expect, but it is also a picture that frustrates definitive summation, and resists being turned into specific recipes for school improvement.

Reviewers have listed the critical elements of effective schooling in different ways. Their reviews tend to be mutually supportive, but their specific conclusions overlap in ways that are hard to compare directly. Thus, it is equally possible to conclude that none of them are saying the same thing (D'Amico, 1982), and that they are all saying the same thing in different words. In a summary of the characteristics of effective schools, each item tends to embrace a great many specifics about the school environment. For example, Hathaway (1982) advises the school principals of Portland that in effective schools

> Both teachers and students believe and expect that each pupil can and will perform up to high, but personally appropriate standards of achievement and behavior. . . . A necessary condition for such standards is that the school and each classroom in it has a system of clear, well understood learning outcomes that emphasize basic skills and that guide, focus and lend continuity to all instruction.

The closer we get to the level of implementation, the more such multitiered descriptions of effectiveness are necessary. All the new studies agree that schooling is a complex and continuous, multifaceted process that is always conditioned by the history and circumstances of its evolution. As a consequence, no single element of school effectiveness can be considered in isolation from all of the others, or from the total situation in which it is found. The principles of effectiveness may be consistent, but each school must implement them in unique ways. When effective schools are examined in vivo, what emerges is not a checklist of specific ingredients but a "syndrome" or "culture" of mutually reinforcing expectations and activities (Purkey & Smith, 1982).

At the risk of distorting this understanding of school effectiveness as a gestalt phenomenon, I have attempted a more molecular analysis of the major conclusions from current research. Figure 1 lists 31 particular elements which have been cited in the research reviews, clustered rather arbitrarily along the dimensions of leadership, efficacy, and efficiency.[1] There is some obvious overlap and redundancy among these elements, and many are still rather broadly defined. It is impossible to impose too narrow a definition on instructional time, for example, although it is one of the most impressively validated dimensions of learning, when it is clear that the value of any segment of time depends on the use that is made of it.

Perhaps to compensate for this atomization of elements, I have not attempted, as some other reviewers have, to distinguish sharply between the elements of social organization and those of instruction and curriculum (Hersh, 1981), or between process-learning variables and organization-structure variables (Purkey & Smith, 1982). By leaving these distinctions open I hope to stress, as most other reviewers have done, that the dimensions of leadership, efficacy, and efficiency should each be viewed in its totality as one aspect within the dynamic constellation of a school.

Figure 1 is also divided into "core elements" and "facilitating elements." Although this division reflects the frequency with which each element is invoked in the school effectiveness literature, the facilitating elements can also be read as specific conditions that may make it easier to implement the core principles of effective schooling. As we move down the

FIGURE 1: *Dimensions of Effective Schooling*

LEADERSHIP DIMENSIONS:

Core Elements
Positive climate and overall atmosphere
Goal-focused activities toward clear, attainable and relevant objectives
Teacher-directed classroom management and decisionmaking
In-service staff training for effective teaching
Facilitating Elements
Shared consensus on values and goals
Long-range planning and coordination
Stability and continuity of key staff
District-level support for school improvement

EFFICACY DIMENSIONS:
Core Elements
High and positive achievement expectations with a constant press for excellence
Visible rewards for academic excellence and growth
Cooperative activity and group interaction in the classroom
Total staff involvement with school improvement
Autonomy and flexibility to implement adaptive practices
Appropriate levels of difficulty for learning tasks
Teacher empathy, rapport, and personal interaction with students
Facilitating Elements
Emphasis on homework and study
Positive accountability; acceptance of responsibility for learning outcomes
Strategies to avoid nonpromotion of students
Deemphasis of strict ability grouping; interaction with more accomplished peers

EFFICIENCY DIMENSIONS:
Core Elements
Effective use of instructional time; amount and intensity of engagement in school learning
Orderly and disciplined school and classroom environments
Continuous diagnosis, evaluation, and feedback
Well-structured classroom activities
Instruction guided by content coverage
Schoolwide emphasis on basic and higher order skills
Facilitating Elements
Opportunities for individualized work
Number and variety of opportunities to learn

list from leadership to efficacy to efficiency, we also move progressively from the school and district level of implementation toward the individual classroom. Ultimately, here is where the learning takes place by which we will judge a school's effectiveness.

The classroom as a learning environment is nested in the larger environment of the school, which is embedded in turn in a political-administrative structure through which it relates to the surrounding community (Purkey & Smith, 1982). It will be difficult if not impossible to provide effective classroom teaching in a disorderly, disorganized, and disoriented school environment, and it may be nearly as difficult to organize good schools in an atmosphere of political and managerial indifference. But as Tomlinson (1981) has argued, school effectiveness, if it means anything, comes down to behavior change in the classroom. What I have clustered as efficiency dimensions all have to do with how time spent in the classroom is used to promote learning. As often happens when old truths are discovered, the notion that instructional time is crucial for learning, particularly among children and youth who have not yet become independent learners, has been the biggest news in education for the past few years (Harnischfeger & Wiley, 1976). Because raw time is a neutral quantity, even after it has been cut up and labeled into curriculum blocks, recent researchers have made varying attempts to define both the amount and quality of school time in ways that can be successfully validated against actual achievement.

These attempts to incorporate quality into the definition of instructional time have produced a confusing welter of constructs. But whether the constructs of time on task are defined as "Academic Learning Time" (Denham & Lieberman, 1980), as "Academic Engaged Time" (Rosenshine & Berliner, 1978), or as time spent in "Direct Instruction" (Rosenshine, 1978), all agree in proposing that the master variable of pedagogy is the amount and intensity of student engagement in appropriate learning tasks, and in inferring that effective learning time depends heavily on the atmosphere of the classroom and on the teacher's leadership skills in managing the instructional task. Even though some students might benefit from independent work, most current observers emphasize the importance of an instructional core of teacher-centered activities, or, more pointedly, of teacher involvement with students as opposed to paperwork or neutral monitoring (Stallings, 1981). One major practical benefit of research on engaged time has been to validate the qualitative judgments that teachers and administrators can make as to whether learning is going on (McCarthy et al., 1980; Muir, 1980). When teachers and students are really engaged in learning, even untrained observers can probably tell this; and the likelihood is that their judgments would be confirmed by objective measures.

An orderly and disciplined environment in both the school and the classroom obviously allows more time for learning. Without advocating the return of the hickory stick, school research is learning new respect for the efforts of educators to build school spirit and recognition of authority (Phi Delta Kappa, 1980), and to provide a classroom atmosphere that is free from disruption and distractions (Armor et al., 1976) so that teachers can spend more time on cognitive instead of managerial tasks (Cooley & Leinhardt, 1980). As for many of the dimensions of effectiveness, the principles of good school discipline are deceptively simple: clear and consistent school policies that reinforce the authority of teachers, collective involvement in shared responsibility for learning in an atmosphere of success, and positive support and encouragement for purposive and productive behavior (Lasley & Wayson, 1982). When "an agreed upon standard of behavior and discipline" prevails among staff and students, schools can devote less time to keeping order and more time to promoting achievement (Rutter et al., 1979). At the same time, school administrators lead primarily through example. Formal expressions of order, purpose, and discipline are more likely to flourish when the urgencies of paperwork, politics, and student social life are not allowed to overshadow the educational work of the school (Denham & Lieberman, 1980).

Recent research on teaching reflects a search for principles that transcend the specifics of subjects and levels while at the same time recognizing that good teaching is adaptive. Not only may different methods be appropriate depending on the content and its relationship to the students being taught; the most effective teachers tend to adopt a recognizable personal and individual style (Good & Grouws, 1979b). Still, there is wide agreement that effective teaching will incorporate the processes of continuous diagnosis, evaluation, and feedback into a sequence of well-structured classroom activities. It is noteworthy that the evaluation of student performance is a function very different from that of maintaining reward systems for achievement. Feedback in instruction serves informational rather than motivational purposes (Bardwell, 1982). The amount of teacher praise for classroom activities is not strongly related to achievement unless it entails an accurate assessment of student responses (Brookover et al., 1979; Brophy & Evertson, 1976; Denham & Lieberman, 1980).

The emphasis on structured activities entails the recognition that learning of specific skills or content will ordinarily require instruction that is teacher-managed and content-focused, and that emphasizes correctable performance from students (Cooley & Leinhardt, 1980; Gage, 1978; Peterson & Walberg, 1979; Rist, 1970; Rosenshine, 1976, 1978; Rosenshine & Berliner, 1978; Rutter et al., 1979). The structural focus on instruction also moves beyond the study of such teacher behaviors as questioning (Gall, 1970) to consider both the pace and sequencing of instructional activity. Specific elements of effective structure may include appropriately spaced review activities (Good & Grouws, 1979b) or extra time devoted to the mastery of early units in a sequence (Bloom, 1974). Particular sequences may vary widely, but it appears that a learning sequence will include, whether explicitly or implicitly, activities for review and orientation as well as the application and testing of new skills (Mackenzie, 1981).

Prescriptive systems of curriculum and instruction will be effective, first, to the extent that they incorporate these core strategic elements and, secondly, to the extent that they are actually carried out. If the fad for individualized instruction has been largely disappointing (Bangert & Kulik, 1982; Stallings, 1975), it is because "individualization" like any other educational label covers a multitude of sins as well as virtues. If teachers spend more time with lesson plans than they do with students, or if students are isolated from one another and from their teachers (Stallings, 1981), individualized instruction is a step backwards. But to conclude that teaching strategies should not be responsive to each student's level of mastery would be once again to mistake the bath water for the baby. When individualized instruction is approached as a process rather than a "black box contrast," many of the teaching behaviors that were defined by the Learning Research and Development Center at the University of Pittsburgh as components of individualized instruction turn out to be effective (Leinhardt, 1977). At the same time, such behaviors as active response seeking, modeling, and focusing attention could as easily be described as components of "direct instruction."

Thus, the fact that so many labels in education are overgeneralized ought not to obscure their latent message. The concept of "opportunities to learn" (Cooley & Leinhardt, 1980), though it is more inclusive than "academic engaged time," is so vague as to be nearly meaningless, except in its implication that teaching must be open and flexible even as it is purposive and directed. Strategic thinking about instruction has to balance such tensions and oppositions as group standards versus individual learning (Powell, 1979). The result may well be a mixed strategy: some elementary schools in Milwaukee, for example, combine whole-class instruction at grade level with small-group instruction at each student's individual level (McCormick-Larkin & Kritek, 1982). Such adaptive flexibility rarely grows out of rigid prescriptions. Yet, some curricula and teaching strategies are better than others (Summers & Wolfe, 1979) because they include a variety of learning opportunities appropriate to the audience and the setting.

Any curriculum works better if it is implemented with enthusiasm. Here the overall climate and atmosphere of the school can be seen as a crucible for the personal efficacy of those who work there. Most studies agree in identifying high and positive expectations as a key to effective schooling. But the uniform press for academic excellence (Murphy et al., 1982) must be combined with feelings of efficacy and enthusiasm for teaching. Efficacy in the classroom is stimulated by visible rewards for attaining achievement goals, combined with a variety of teaching strategies for achieving those goals. Strategies combining cooperative activity and group involvement in learning tasks with reward systems in which students at different levels of initial ability compete against their own prior performance can combine strong instructional focus with responsiveness to individual needs (Hulton & DeVries, 1976; Johnson & Johnson, 1975; Slavin, 1977, 1981). Although team competition has been a powerful catalyst in a number of settings (Miller, 1982), it is only one of a number of strategies to bring excitement to learning. Nonetheless, research on teaching effectiveness points strongly to the importance of group instruction, whether in whole classes or in small groups, and of the student's interaction with others in learning activities (Denham & Lieberman, 1980; Roberts, 1971; Stallings, 1981).

No strategy works in isolation from the teacher's judgment and discrimination. Effective teachers create conditions of mastery through the exercise of empathy, rapport, and personal involvement (Denham & Lieberman, 1980). The teacher's role as a decisionmaker is illustrated by the problem of sustaining appropriate levels of difficulty for learning tasks. Although it appears that the average rate of student errors in American elementary classrooms is too high rather than too low (Block, 1980), it is not easy to define what an "appropriate" level is. No one learns much from the endless repetition of either success or failure. An intermediate level of difficulty is consistent with achievement motivation theory (Atkinson, 1958; McClelland, 1955). Social comparison theory (Pettigrew, 1967) suggests a level of challenge just above each student's current skills. Either way, no theory of motivation or of mastery learning can supplant the teacher's judgment in recognizing when students get stuck and bored.

Just as "individualization" can isolate students, rigid forms of ability grouping and tracking can inhibit flexible and innovative teaching. Grouping should reflect the needs of instruction without restricting its content or prescribing different goals for different students. Strong grouping based on children's skills before instruction is most harmful in the early grades (Brookover et al., 1979; National Institute of Education, 1977). Once exposed to instruction, students may be usefully grouped into flexible arrangements that can be modified as their learning progresses. The more groupings there are, and the more movement among the groups, the more they facilitate teaching without stigmatizing students. In high school, curriculum tracking once again may serve to depress overall levels of achievement (Rosenbaum, 1976). The danger in tracking is one of limited expectations for "lower track" students (Acland, 1972; Alexander & McDill, 1976; Hargreaves, 1967; Heyns, 1974; Schafer & Olexa, 1971). Because this derives from the social meaning of curriculum tracks, it is unlikely to be much relieved except through forms of differentiation that are less strongly associated with either family background or general academic performance.

The educational climate of "fast tracks" provides clues to some facilitating conditions for student efficacy and high expectations (Madaus et al., 1980). A consistent emphasis on homework and study, encouragement for students to assume responsibility for their own learning and that of others, and a general acceptance of responsibility for outcomes all seem to be characteristic of high-achieving environments. Strategies to avoid nonpromotion of students are probably more effective than the repetition of similar forms of instruction. Parent contact and involvement would seem to have obvious importance, but there is little evidence for strong relationships between the amount of parent contact and successful school achievement (Brookover et al., 1979; Clark et al., 1980; Edmonds, 1979a; Purkey & Smith, 1982). Parental contact takes many forms; Stallings (1981) suggests that students make more progress when their parents are directly involved with their learning and instruction.

Conditions for efficacy and efficiency depend on leadership. School leadership is not a mystical attribute but a set of attitudes, activities, and behaviors (Gersten, Carnine, & Green, 1982) which inspire others to effective group efforts. In one of the many parallels between effective teaching and effective leadership, a strong academic posture typically combines "few goals and many methods" (McCarthy et al., 1980). The goals of change are strongly focused and clearly defined, but multiple strategies are encouraged, and teaching staff have the autonomy and flexibility they need to discover and implement adaptive practices. Active instructional leadership from the principal of a school may be a good thing, but the effective principal is less likely to prescribe specific methods than to offer continual assistance in response to the problems which teachers identify for themselves (Stallings, 1981).

There is a good deal of uncertainty about the role of informal leadership within the school (Clark et al., 1980; Edmonds, 1979a; Gersten et al., 1982). Not only principals have leadership qualities, and the activities of leadership are not things that only principals can do. Leadership independent of the principal's office can be effective, particularly in the case of externally supported programs (Kennedy, 1978). Nonetheless, informal leadership can also be unstable and fleeting (Miller, 1982). Principals can obstruct or facilitate the process of school reform enough to determine whether anything happens or not (McCarthy et al., 1980). Thus, most observers come down on the side of the principal as a key actor, particularly in setting policy. School discipline and even attendance requires clearly defined schoolwide policies which have to be centrally coordinated (Lasley & Wayson, 1982; Stallings, 1981). The principal must involve others in the actualization of policy if not in its formulation, but cannot pass the buck for final decisions. Perhaps the most succinct statement of the role of central leadership is in Cope's (1981) review of higher educational planning: a bottom-up process must have a method of implementation at the top. Instructional leadership can and should be encouraged throughout the school community, but principals are in a key position to provide consistent and continuous leadership to set a tone of order and purpose for the school as a whole, to build commitment for specific academic goals, and to guide the evaluation of progress toward those goals (Armor et al., 1976).

One crucial area of leadership is staff development. In-service training focused specifically on effective teaching is often portrayed as a key to effective school improvement. Such training may provide concrete tools for classroom management and organization (Good & Grouws, 1979b). But the narrow specifics are less important than the process of focusing attention on teaching and learning (Stow, 1979) and on problems of decisionmaking in the classroom (Powell, 1979). Staff development must address the teacher as an executive and a classroom strategist (Brophy & Evertson, 1981; Gage, 1978; Muir, 1980). Staff interaction and participatory planning around the specific goals of instruction may help engender a more widely shared consensus on values and goals through which the achievement climate becomes self-sustaining. The same principles of active and purposive involvement in learning that apply to classroom teaching can be generalized to in-service training. Thus, Stallings (1981) advocates schoolwide training activities that approach teachers themselves as "mastery learners."

The school, of course, cannot be isolated from its political and social environment. Conditions of stability and continuity among key staff, which permit long-range planning and coordination, probably present the best prospects for school improvement (Clark et al., 1980), although few studies have yet examined such variables over time. Purkey and Smith (1982) mention district-level support for school improvement as a positive factor in schoolwide change. Given the atmosphere of accountability in American education today, it may be more pertinent to ask what kinds of intervention will prove most effective at the district level. Cataloguing, describing, and evaluating district-level school improvement efforts should be one major priority for future research.

School Resources and Effectiveness

With the study of reading achievement in inner-city schools, which was to become a prototype for subsequent research, Weber (1971) was reacting to the Coleman Report's implications that school resources "make no difference." Edmonds (1979a, 1979b, 1979c, 1981, 1982) and some other advocacy researchers quite openly set out to combat the attitude that school achievement must be limited either by resource constraints or by the family background conditions from which students are drawn. Still, it would be just as wrong to assume that school resources can be disregarded as to assume that family background makes no difference.[2] Although different researchers arrive at widely varying conclusions about the importance of school resources in general (Averch et al., 1974; Bridge et al., 1979; Guthrie et al., 1971; Mayeske et al., 1972), the impact of school resources increases with their impact on classrooms and students. Thus, kindergarten or preschool instruction has consistently positive effect, especially when outcomes are followed throughout the child's school career (Edmonds & Frederiksen, 1978; Schweinhardt & Weikart, 1980). Incentive funding for special programs also can have a catalytic effect when there is strong and active leadership for their implementation (Acland, 1979; Armor et al., 1976; Clark et al., 1979; Cohen, 1982; Coulson, 1978; Edmonds, 1979a; Hanushek, 1981; National Institute of Education, 1977; Wang, 1980). And finally, staff improvement should have greater payoffs educationally than plant improvement.

Available resources condition both the options and the priorities for school improvement. For example, although teacher experience beyond 5 years has minimal implications for achievement, the same studies show that the first 5 years of teaching experience may be a critical time for developing instructional skills (Bridge et al., 1979; Edmonds, 1979a; Hersh, 1981; Klitgaard & Hall, 1973; Murnane, 1980; Summers & Wolfe, 1979). Thus the relative mix of new and experienced teachers in a school has important consequences for staff development needs. Given that a student's peers are a primary resource in school learning, schools that must live with high concentrations of disadvantaged and underachieving students may have to pay more conscious attention to peer culture as a point of intervention (Brookover et al., 1979; Cohen, 1979; Cooley & Leinhardt, 1980; Madaus et al., 1980; Rist, 1970, Rutter et al., 1979). Carefully planned and structured peer tutoring can be remarkably effective in expanding instructional time (Bloom, 1976; Ellson, 1976), but the implementation of tutoring must obviously take into account the skills and maturity of the student population.

Rather than a deemphasis on school resources, the new research on effectiveness implies a shift in perspective from viewing resources and neutral "input" to looking critically at how existing and future resources can be used to achieve higher goals. The resource needs of individual schools may vary such that research cannot identify "master resources" that will be helpful to every school. And no school will live by resources alone. Although the availability of curriculum resources is important in developing effective teaching (Gersten et al., 1982), the mere availability of such resources cannot guarantee their effective use. The issue of class size illustrates the interactive nature of resources and leadership. Increased staff ratios and reduced teaching loads can provide better conditions for effective teaching (Klitgaard & Hall, 1973; Glass et al., 1982; Murnane, 1980; Summers & Wolfe, 1979). But a reduction in class size by itself is unlikely to realize positive benefits in the absence of a concerted instructional strategy to take advantage of higher staff ratios (Bridge et al., 1979; Clark et al., 1979; Denham & Lieberman, 1980; Edmonds, 1979a; Shapson et al., 1980).

Because resources have meaning only in relation to specific needs, the search for a national policy on how schools should spend their money has been largely fruitless (Averch et al., 1974). Although the "best" level of staff and faculty involvement in local resource decisions is an open question (Acland, 1979; Armor et al., 1976; Peterson & Walberg, 1979; Purkey & Smith, 1982), it is evident that the most effective allocations will be those that are most responsive to local needs and that flow out of the evolution of comprehensive planning for instructional improvement.

Outcomes of Effective Schools

As the new scriptures of effective schooling grow in popularity, more and more reviewers raise legitimate concerns about their reliance on narrow achievement tests that may overlook many of the desired outcomes of schooling (Madaus et al., 1971; Purkey & Smith, 1982). It is true that the higher order thinking and reasoning skills (Selden, 1982), which may be the most important outcomes of schooling (Jencks, 1978), have been largely neglected, in part because the stigmatized and stigmatizing IQ tests are the only convenient and widely accepted measure (Cooley & Lohnes, 1976). On the other hand, substituting qualitative indicators without objective measures of achievement (Phi Delta Kappa, 1980) threatens to take the appearance of success for the actuality of sustained learning. Not much has been done to assess the interrelationships among qualitatively different aspects of school success, although a good deal of work has gone into correcting measured outcomes for past performance and other student background characteristics (Dyer, Lynn, & Patton, 1969).

There has also been little discussion of what we want to mean by school effectiveness in relation to the level, skewness, dispersion, and reliability of whatever measures are used. Though average or mean achievement may be the best indicator for comparing different educational treatment, rates of success as emphasized by Edmonds (1982) may be a more appropriate measure of overall school climate. In a negatively skewed distribution, most students will be above average; if the distribution is positively skewed, most of them will be below average. Although no empirical research has tested the relationship between skewness and level of outcomes, the negative skew—with its positive bias for the majority of cases—intuitively suggests a better climate for achievement.

Questions of equity or equality of outcomes sometimes raise deeper confusions about the dispersion or variance in educational achievement. When Tomlinson (1982)

BEST COPY AVAILABLE

suggests that "effective schooling should expand the differences between students rather than restrict them," there is substantial evidence to suggest that he is right (Leinhardt, 1977; Rosenbaum, 1976). Rich environments magnify differences in native ability; stultifying environments thwart them. But there is no necessary relationship between differences among students and differences between groups. Frederiksen and Edmonds (1979) found that schools that were more effective with low achievers were at least as effective with high achievers as the average school. In general there is no evidence that achievement gains among low achievers occur at the expense of higher achieving students (Bridge et al., 1979; Coulson, 1978; St. John, 1975). If time spent in formal instruction is more powerful for those whose outside resources are more limited (Heyns, 1978), and if school effectiveness is viewed in relation to student and family investments in learning (Benson, Medrich, & Buckley, 1980), it would be intuitively more efficient to concentrate on the performance of students with identified background disadvantages than to target instruction on the basis of low test scores. If instruction is equally effective for all groups of students, both the level and the dispersion of outcomes should increase for every group.

Toward an Ethnomethodology of School Improvement

With the flowering of research-based approaches to local school improvement, American education moves a step closer to its Deweyan ideal of a pragmatic science rooted in classroom experience. The organized efforts to implement effective practice at the building and district levels pose splendid opportunities to observe their results in action. Research studies of implementation efforts should avoid the assumption that applied or pragmatic research in education must necessarily be less rigorous than "pure" research. There is no reason for pragmatic research to be less rigorous in testing the validity of its conclusions merely because those conclusions are less precise. Indeed, in the buzzing complexity of a school environment, imprecise answers may be precisely the kind to be sought. When a formula gives the appearance of great precision, it is almost surely going to be wrong. The precise weights for each item in a regression of school outcomes on inputs help to distinguish the elephants from the mice, and at times they may even feed our imagination about underlying processes. What they cannot do is to show precisely how dollars grow into brains. There are always too many specific and accidental circumstances for that.

As Purkey and Smith (1982) emphasize, a school is a small culture, a more or less loosely knit social organization, and not a fine piece of machinery like a nuclear reactor. In this environment, nothing works all the time. Almost anything that makes sense will work more often than not, if it is implemented with enough self-critical optimism and zest. Some things work more often than others, but hardly anything works for everybody. Nothing works by itself, and everything takes a long time.

That much is already known, but there is a great deal more to be learned from the ethnomethodology of school improvement, if the processes of guided change are observed with enough patience and care. Some schools are more willing to implement new practices than others are. Principals, teachers, and others involved in school improvement differ in their perceptions of the same results (McCarthy et al., 1980). School success means different things to different actors on the scene, and the ways these different actors judge progress toward their goals is critical to the process of implementation. Such interior aspects of school improvement deserve to be recorded in more detail.

Consistency of outcomes over time is another weak point in effective schools research. In their critical article in this issue, Rowan, Bossert, and Dwyer report that measure of effectiveness at the building level are not very consistent over time, although they are more consistent than would be expected by chance. Much the same is true of classroom measures of effectiveness (Brophy, 1973; Good & Grouws, 1979a; Rosenshine, 1970b). Nonetheless, by identifying and observing teachers whose classroom performance is consistently successful over a period of years, Good and Grouws (1979b) have developed techniques that were able to raise performance in other classroom settings through in-service training. A longer time perspective in research at the school level would lend greater confidence to our qualitative conclusions about effective schools and might also expand our understanding of the interaction between school resources and achievement in the long run.

The same observations hold for schooling at different levels, as well as for urban versus rural schools and for different regions and cultural groups. Observations of effective junior high and secondary schools have reached strikingly similar conclusions as the research on effective elementary schooling (Anderson, 1982; Lightfoot, 1981; Madaus et al., 1980; Rutter et al., 1979; Stallings, 1981). Still, if the core principles are the same, their expression in practice will surely be different. Firestone and Herriott (1982) report that high school faculties exhibit significantly less goal consensus, investment in basic skills, and responsiveness to centralized influence on classroom management than teachers at the elementary level. Most of these differences are a natural consequence of the specialization of high school teaching. Curriculum differentiation in the modern comprehensive high school is the fruit of a long historical experiment in mass secondary education (Conant, 1969; James & Tyack, 1983). Despite a new wave of interest in the basic academic skills as a part of the high school curriculum (Project EQuality, 1981), the greater diversity of goals in high school education will remain a constant factor to be dealt with in designing strategies for school improvement.

All the same, a number of questions are worth asking at all levels of schooling. How do educational prophecies become self-fulfilling, and when do they become self-serving? What conditions support the constructive dissatisfaction with the status quo that is needed to motivate school improvement (Brookover et al., 1979; Clark et al., 1980; Edmonds, 1979a), without leading to fatalism about results? Is it easier, as McCarthy et al. (1980) seem to suggest, to focus first on the nuts and bolts of classroom management than it is to move more directly toward a positive "climate" for effectiveness? Given the inconclusiveness of claims for one teaching "method" over another (Gage, 1976), how does curriculum planning and development serve, as it clearly can, as a stimulus for improved teaching and learning? And what is the role, for example, of demonstration curricula aimed at generic and higher order skills (Selden, 1981), and of dissemination networks for effective practice? While there is some agreement that all these things can be helpful (Nachtigal, 1980), much of the evidence is too anecdotal to serve as a guide for policy.

The amount of agreement on the principal factors in school effectiveness is so striking that the question of what is important in school effectiveness may now be less significant than the question of what can be changed for the least cost and the most results. To paraphrase Edmonds (1979a), we know what we need to do to teach effectively. There is much less clarity about how to do it. The need for research to refine our understanding of effective teaching, and to explore the cognitive bases for learning is as great as ever. But it remains for a new generation of studies to record the process of school improvement in enough detail to permit a clinical, if not an ethnographic, analysis with which to verify the utility as well as the validity of our working concepts. At last, it is nearly time to taste the pudding.

Notes

I have kept the title of "Research for School Improvement" even though it may be somewhat misleading since I have not reviewed much of the literature on implementing specific programs through the National Diffusion Network or with other staff development resources (Herriott & Gross, 1981; Stallings, 1981). Those studies I have reviewed are more "basic" in attempting to generalize about the dynamics and processes of schooling, though also "applied" in trying to draw our implications for school policy and practice.

[1] Figure 1 reflects my own earlier synthesis of research on school effectiveness (MacKenzie, 1981), plus a subsequent judgmental classification of major conclusions from nine other recent reviews. Six of these (Bridge et al., 1979; Clark et al., 1980; Cohen, 1982; Madaus et al., 1980; Purkey & Smith, 1982; Tomlinson, 1981) are published reviews, some of which have been widely circulated in research citations. A seventh review study (Edmonds, 1979a) is less easily available in its original form, but has been summarized in several influential articles by the same author (Edmonds, 1979b, 1979c, 1981). Two additional unpublished reviews (Hathaway, 1982; Hersh, 1981) represent recent attempts to synthesize comprehensive findings in a practical context. Finally, my count of conclusions was augmented by summary findings from Benbow's (1980) collection of 37 abstracts from the ERIC Clearinghouse on Urban Education. My detailed taxonomy of these studies is available on request.

[2] Differences between schools account for only a small fraction of the variations in individual achievement that are related to family background (Bridge et al., 1979; Mosteller & Moynihan, 1972). Thus differences in quality from one school to another cannot be held responsible for most of the inequalities in achievement relative to family background. Indeed in the absence of schooling such inequalities would undoubtedly increase (Heyns, 1978). I refer to school effectiveness as a "side door" because effectiveness has almost nothing to do with comparisons of between-school differences versus family background. To understand how this is so, imagine that every school teaches all its students in the best possible way. Because family background is related to educational resources outside school, variation due to family background, though persistent, would be reduced as a direct result of school effectiveness. But variation between schools would be reduced even more because all schools would be performing equally well.

References

Acland, H. *Streaming in British secondary schools*. Cambridge: Harvard Center for Educational Policy Research, 1972.

Acland, H. *School-centered reform: A study of California's school improvement program*. Palo Alto, Calif.: Bay Area Research Group, Report to the Carnegie Corporation of New York, 1979.

Alexander, K. L., & McDill, E. L. Selection and allocation within schools: Some causes and consequences of curriculum placement. *American Sociological Review*, 1976, *41*, 936–960.

Anderson, S. L. Turning around junior highs in the District of Columbia. *Educational Leadership*, 1982, *40* (3), 38–40.

Armor, D. J., Conrey-Oseguera, P., Cox, M., King, N., McDonald, L., Pascal, A., Pauley, E., & Zellman, G. *Analysis of the School Preferred Reading Program in selected Los Angeles minority schools*. (ED 130234, Report No. R-2007-LAUSD) Santa Monica: Rand Corporation, 1976.

Atkinson, J. W. (Ed.). *Motives in fantasy, action, and society*. Princeton, N.J.: Van Nostrand, 1958.

Averch, H. A., Carroll, S. J., Donaldson, T. S., Kiesling, H. J., & Pincus, J. *How effective is schooling? A critical review of research*. Englewood Cliffs, N.J.: Educational Technology Publications, 1974.

Bangert, R. L., & Kulik, J. A. *Individualized systems of instruction: A meta-analysis of findings in secondary schools*. Paper presented at the annual meeting of the American Educational Research Association, New York, March 1982.

Bardwell, R. How feedback functions. *Education Digest*, 1982, *47* (5), 23–26.

Benbow, C. *Review of instructionally effective schooling literature*. New York: Clearinghouse on Urban Education, Columbia University Teachers College (ERIC/CUE Urban Diversity Series No. 70), 1980.

Benson, C. S., Medrich, E. A., & Buckley, S. A new view of school efficiency: Household time contributions to school achievement. In J. W. Guthrie (Ed.), *School finance policies and practices*. First Annual Yearbook of the American Educational Finance Association. Cambridge, Mass.: Ballinger, 1980.

Block, J. W. Success rate. In C. Denham & A. Lieberman (Eds.), *Time to learn*. Washington, D.C.: Program on Teaching and Learning, National Institute of Education, 1980.

Boocock, S. S. The school as a social environment for learning: Social organization and micro-social process in education. *Sociology of Education*, 1973, *46*, 15–50.

Bowles, S. S., & Gintis, J. *Schooling in capitalist America: Educational reform and the contradictions of economic life*. New York: Basic Books, 1976.

Bloom, B. S. Time and learning. *American Psychologist*, 1974, *29*, 682–688.

Bloom, B. S. *Human characteristics and school learning*. New York: McGraw-Hill, 1976.

Bridge, R. G., Judd, C. M., & Moock, P. R. *The determination of educational outcomes: The impact of families, peers, teachers, and schools*. Cambridge, Mass.:Ballinger, 1979.

Brookover, W. B., Beady, C. H., Flood, P. K., Schweitzer, J., & Wisenbaker, J. *School social systems and student achievement: Schools can make a difference*. New York: Praeger, 1979.

Brookover, W. B., Beamer, L., Efthim, H., Hathaway, D., Lezotte, L. W., Miller, S. K., Passalacqua, J., & Tornatzky, L. *Creating effective schools*. Holmes Beach: Learning Publications, 1983.

Brophy, J. E., Stability of teacher effectiveness. *American Educational Research Journal*, 1973, *10*, 245–252.

Brophy, J. E., & Evertson, C. M. *Learning from teaching: A developmental perspective*. Boston: Allyn and Bacon, 1976.

Brophy, J. E., & Evertson, C. M. *Student* *characteristics and teaching*. New York: Langman, 1981.

Brophy, J. E., & Good, T. L. *Teacher-student relationships: Causes and consequences*. New York: Holt, Rinehart and Winston, 1974.

California State Department of Education. *School effectiveness study: The first year*. Sacramento: Office of Program Evaluation and Research, 1977.

Carroll, J. B. A model of school learning. *Teachers College Record*, 1963, *64*, 722–733.

Carroll, J. B. *Language and thought*. Englewood Cliffs, N.J.: Prentice-Hall, 1964.

Carroll, J. B. A revisionist model of school learning. *Review of Education*, 1977, *3*, 155–167.

Cicirelli, V. G., Evans, J. W., & Schiller, J. S. The impact of Head Start: A reply to the Report Analysis. *Harvard Educational Review*, 1970, *40*, 105–129.

Cicourel, A. V., Jennings, K. H., Jennings, S. H. M., Leiter, K. C. W., MacKay, R., Mehan, H., & Roth, D. R. (Eds.). *Language use and school performance*. New York: Academic Press, 1974.

Clark, D. L., Lotto, L. S., & McCarthy, M. M. Secondary source study of exceptionality in urban elementary schools. In Phi Delta Kappa, *Why do some urban schools succeed? The Phi Delta Kappa study of exceptional urban elementary schools*. Bloomington: Phi Delta Kappa and Indiana University, 1980.

Cohen, E. G. Sociology in the classroom: Setting the conditions for teacher-student interaction. *Review of Educational Research*, 1972, *42*, 441–452.

Cohen, M. Effective schools: Accumulating evidence. *American Education*, January/February 1982, pp. 13–16.

Coleman, J. S., Campbell, E. G., Hobson, C. J., McPartland, J. M., Mood, A. M., Weinfeld, F. D., & York, R. L. *Equality of educational opportunity*. Washington, D.C.: Government Printing Office. 1966.

Conant, J. B. *The comprehensive high school: A second report to interested citizens*. New York: McGraw-Hill, 1967.

Cooley, W. W., & Leinhardt, G. The Instructional Dimensions Study. *Educational Evaluation and Policy Analysis*, 1980, 2 (1), 7–25.

Cooley, W. W., & Lohnes, P. R. *Evaluation research in education*. New York: Wiley, 1976.

Cope, R. G. Strategic planning, management, and decision making. (AAHE-ERIC/Higher Education Research Report No. 9). Washington, D.C.: American Association of Higher Education, 1981.

Coulson, J. E. National evaluation of the Emergency School Aid Act (ESAA): A review of methodological issues. *Journal of Educational Statistics*, 1978, *3*, 1–60.

D'Amico, J. Using effective schools studies to create effective schools: No recipes yet. *Educational Leadership*, 1982, *40* (3), 60–62.

Denham, C., & Lieberman, A. (Eds.). *Time to learn*. Washington, D.C.: Program on Teaching and Learning, National Institute of Education, 1980.

Dyer, H. S., Linn, R. L., & Patton, M. J. A comparison of four methods of obtaining discrepancy measures based on observed and predicted school system means on achievement tests. *American Educational Research Journal*, 1969, *6*, 591–605.

Edmonds, R. R. *A discussion of the literature and issues related to effective schooling*. Cambridge, Mass.: Center for Urban Studies, Harvard Graduate School of Education, 1979. (a)

Edmonds, R. R. Effective schools for the urban poor. *Educational Leadership*, 1979, *37*, 15–27. (b)

Edmonds, R. R. Some schools work and more can. *Social Policy*, 1979, *9* (2), 28–32. (c)

Edmonds, R. R. Making public schools effective. *Social Policy*, 1981, *12* (2), 56–60.

Edmonds, R. R. Programs of school improvement: An overview. *Educational Leadership*, 1982, *40* (3), 4–11.

Edmonds, R. R., & Frederiksen, J. R. *Search for effective schools: The identification and analysis of city schools that are instructionally effective for poor children*. Cambridge, Mass.: Center for Urban Studies, 1978.

Ellson, D. G. Tutoring. In N. L. Gage (Ed.), *The psychology of teaching methods*. Chicago: University of Chicago Press, 1976.

Epstein, J. L., & McPartland, J. M. *Classroom organization and the quality of school life* (Report No. 214). Baltimore: Center for Social Organization of Schools, The Johns Hopkins University, 1976.

Firestone, W. A., & Herriott, R. E. Prescriptions for effective elementary schools don't fit secondary schools. *Educational Leadership*, 1982, *40* (3), 51–53.

Flanders, N. A., & Nuttall, G. (Eds.). The classroom behavior of teachers. *International Review of Education*, 1972, *18*, 427–568.

Frederiksen, J. R., & Edmonds, R. R. *Identification of instructionally effective and ineffective schools*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, April 1979.

Gage, N. L. (Ed.). *The psychology of teaching methods*. Chicago: University of Chicago Press, 1976.

Gage, N. L. *The scientific basis of the art of teaching*. New York: Teachers College Press, 1978.

Gall, M. G. The use of questions in teaching. *Review of Educational Research*, 1970, *40*, 707–721.

Gersten, R., Carnine, D., & Green, S. The principal as instructional leader: A second look. *Educational Leadership*, 1982, *40* (3), 47–50.

Glass, G. V, Cahan, L. S., Smith, M. L., & Filby, N. N. *School class size: Research and policy*. Beverly Hills, Calif. Sage, 1982.

Good, T. L., & Grouws, D. A. Teacher rapport: Some stability data. *Journal of Educational Psychology*, 1979, *67*, 179–182. (a)

Good, T. L., & Grouws, D. A. Teaching and mathematics learning. *Educational Leadership*, 1979, *37*, 39–45. (b)

Guskin, A. E., & Guskin, S. L. *A social psychology of education*. Reading, Mass.: Addison-Wesley, 1970.

Guthrie, J. W., Kleindorfer, G. B., Levin, H. M., & Stout, R. T. *Schools and inequality*. Cambridge, Mass.: MIT Press, 1971.

Hanushek, E. A. Throwing money at schools (Discussion Paper No. 8004). Rochester, N.Y.: Public Policy Analysis Program, University of Rochester, 1981.

Harnischfeger, A., & Wiley, D. E. Exposure to schooling: Method, conclusions, policy. *Educational Researcher*, 1976, *5* (2), 18.

Hargreaves, D. H. *Social relations in a secondary school*. London: Routledge and Kegan Paul, 1967.

Hathaway, W. E. What research tells us about the nature of schools that are exceptionally effective in improving student achievement and about the role of the principal in creating and supporting them. *Notes for discussion with Portland Public Schools principals*. Portland, Ore.: Board of Education, 1982.

Hellmuth, J. (Ed.). *Compensatory education: A national debate*. New York: Brunner/Mazel, 1970.

Henry, J. Attitude organization in elementary school classrooms. *American Journal of Orthopsychiatry*, 1957, 27, 117–133.

Herriott, R. E., & Gross, N. (Eds.). *The dynamics of planned educational change: Case studies and analyses*. Berkeley, Calif.: McCutchan, 1979.

Hersh, R. H. *What makes some schools and teachers more effective?* Eugene, Ore.: Center for Educational Policy and Management, University of Oregon, 1981. (Draft)

Heyns, B. L. Social selection and stratification within schools. *American Journal of Sociology*, 1974, *79*, 1434–1451.

Heyns, B. L. *Summer learning and the effects of schooling*. New York: Academic Press. 1978.

Hodgson, G. Do schools make a difference? In D. M. Levine & M. J. Bane (Eds.), *The "Inequality" controversy: Schooling and distributive justice*. New York: Basic Books, 1975.

House, E. R., Glass, G. V, McLean, L. D., & Walker, D. F. No simple answer: Critique of the Follow Through evaluation. *Harvard Educational Review*, 1978, *48*, 128–160.

Hulton, B. H., & DeVries, D. L. *Team competition and group practice: Effects on student achievement and attitudes* (Report No. 212). Baltimore: Center for Social Organization of Schools, The Johns Hopkins University, 1976.

Jackson, P. W. *Life in classrooms*. New York: Holt, Rinehart and Winston, 1968.

James T., & Tyack, D. Learning from past efforts to reform the high school. *Phi Delta Kappan*, 1983, *64*, 400–406.

Jencks, C. S. What's behind the drop in test scores? *Working Papers*, 1978, *6* (4), 29–41.

Jensen, A. R. How much can we boost IQ and scholastic achievement? *Harvard Educational Review*, 1969, *39*, 1–124.

Johnson, D. W., & Johnson, R. T. *Learning together and alone: Cooperation, competition, and individualization*. Englewood Cliffs, N.J.: Prentice-Hall, 1975.

Kennedy, M. M. Findings from the Follow Through Planned Variations Study. *Educational Researcher*, 1978, *7* (7), 9–17.

Kiesling, H. J. *Multi-variate analysis of schools and educational policy* (Report No. P-4595). Santa Monica, Calif.: Rand Corporation, 1971. (a)

Kiesling, H. J. *A study of successful compensatory education projects in California.* Santa Monica, Calif.: Rand Corporation, 1971. (b)

Klitgaard, R. E., Hall, G. R. *A statistical search for unusually effective schools.* Santa Monica, Calif.: Rand Corporation, 1973.

Lasley, T. J. & Wayson, W. W. Characteristics of schools with good discipline. *Educational Leadership,* 1982, *40* (3), 28–31.

Leacock, E. B. *Teaching and learning in city schools.* New York: Basic Books, 1969.

Leinhardt, G. Program evaluation: An empirical study of individualized instruction. *American Educational Research Journal,* 1977, *14,* 277–293.

Lightfoot, S. L. *Worlds apart: Relationships between families and schools.* New York: Basic Books, 1978.

Lightfoot, S. L. Portraits of exemplary secondary schools: Highland Park. *Daedalus,* 1981, *110* (4), 59–80.

Mackenzie, D. E. *Leadership for learning: What research shows about effective schools.* Washington, D.C.: National School Boards Association, 1981.

Madaus, G. F., Airasian, P. W., & Kellaghan, T. The effects of standardized testing. *Irish Journal of Education,* 1971, *5,* 70–85.

Madaus, G. F., Airasian, P. W., & Kellaghan, T. *School effectiveness: A reassessment of the evidence.* New York: McGraw-Hill, 1980.

Mann, D. (Ed.). *Making change happen?* New York: Teachers College Press, 1978.

Mayeske, G. W., Wisler, C. E., Beaton, A. E. Jr., Weinfeld, F. D., Cohen, W. M., Okada, T., Proshek, J. M., & Tabler, K. A. *A study of our nation's schools.* Washington, D.C.: Government Printing Office (DHEW Publication No. (OE)72-142), 1972.

McCarthy, D. P., Lazarus, A., & Canner, J. *School Improvement Project: A summary of the first annual assessment report.* New York: Office of Educational Evaluation, New York City Public Schools, 1980.

McClelland, D. C. (Ed.). *Studies in motivation.* New York: Appleton-Century-Crofts, 1955.

McCormick-Larkin, M., & Kritek, W. J. Milwaukee's Project RISE. *Educational Leadership,* 1982, *40* (3), 16–21.

Mehan, H. *Learning lessons; Social lessons: Social organization in the classroom.* Cambridge: Harvard University Press, 1979.

Miller, S. K. School learning climate improvement: A case study. *Educational Leadership,* 1982, *40* (3), 36–37.

Minneapolis Board of Education. *Critical choices: The climate for learning in the Minneapolis Public Schools.* Minneapolis, Minn.: Minneapolis Public Schools Discussion Package No. 8, 1981.

Morrison, B., & McIntyre, A. (Eds.). *The social psychology of teaching.* Harmondsworth: Penguin, 1972.

Mosteller, F., & Moynihan, D. P. (Eds.). *On "Equality of Educational Opportunity": Papers deriving from the Harvard University faculty seminar on the Coleman Report.* New York: Random House, 1972.

Muir, R. A teacher implements changes using the BTES framework. In C. Denham & A. Lieberman (Eds.), *Time to learn.* Washington, D.C.: Program on Teaching and Learning, National Institute of Education, 1980.

Murnane, R. J. *Interpreting the evidence on school effectiveness.* Working Paper No. 830. New Haven, Conn.: Institute for Social and Policy Studies, Yale University, 1980.

Murphy, J. F., Weil, M., Hallinger, P., & Mitman, A. Academic press: Translating high expectations into school policies and classroom practices. *Educational Leadership,* 1982, *40* (3), 22–26.

Nachtigal, P. M. *Improving rural schools.* Washington, D.C.: National Institute of Education, 1980.

National Institute of Education. *The effects of services on student development.* Washington, D.C.: Department of Health, Education and Welfare, 1977.

New York State Department of Education. *School factors influencing reading achievement: A case study of two inner-city schools.* Albany, N.Y.: State Office of Education, 1974.

Peterson, P. L., & Walberg, H. J. (Eds.). *Research on teaching: Concepts, findings, and implications.* Berkeley, Calif.: McCutchan, 1979.

Pettigrew, T. F. Social evaluation theory: Convergences and applications. In D. Levine (Ed.), *Nebraska symposium on motivation.* Lincoln: University of Nebraska Press, 1967.

Phi Delta Kappa. *Why do some urban schools succeed? The Phi Delta Kappa study of exceptional urban elementary schools.* Bloomington, Ind.: Phi Delta Kappa and Indiana University, 1980.

Powell, M. New evidence for old truths. *Educational Leadership,* 1979, *37,* 49–51.

Project EQuality. *Preparation for college in the 1980s.* New York: College Entrance Examination Board, 1981.

Purkey, S. C., & Smith, M. S. Too soon to cheer? Synthesis of research on effective schools. *Educational Leadership,* 1982, *40* (3), 64–69.

Rist, R. C. Student social class and teacher expectations: The self-fulfilling prophecy in ghetto education. *Harvard Educational Review,* 1970, *40,* 411–451.

Roberts, J. L. *Scene of the battle, Group behavior in urban classrooms.* Garden City, N.J.: Doubleday, 1971.

Rosenbaum, J. E. *Making inequality: The hidden curriculum of high school tracking.* New York: Wiley, 1976.

Rosenshine, B. V. Recent research on teaching behaviors and student achievement. *Journal of Teacher Education,* 1976, *27,* 61–65.

Rosenshine, B. V. Academic engaged time, content covered, and direct instruction. *Journal of Education,* 1978, *160* (3), 38–66.

Rosenshine, B. V., & Berliner, D. C. Academic engaged time. *British Journal of Teacher Education,* 1978, *4,* 3–16.

Rosenthal, R., & Jacobson, L. *Pygmalion in the classroom: Teacher expectations and pupils' intellectual development.* New York: Holt, Rinehart and Winston, 1968.

Rutter, M., Maugham, B., Moritmore, P., Ouston, J., & Smith, A. *Fifteen thousand hours: Secondary schools and their effects on children.* Cambridge: Harvard University Press, 1979.

St. John, N. H. *School desegregation: Outcomes for children.* New York: Wiley, 1975.

Schafer, W. E., & Olexa, C. *Tracking and opportunity: The shutting-out process and beyond.* Scranton, Pa.: Chandler, 1971.

Schweinhardt, L. J., & Weikart, D. P. *Young children grow up: The effects of the Perry Preschool Project on youths through age 15* (Monograph No. 7). Ypsilanti, Mich.: High/Scope Educational Research Foundation, 1980.

Selden, R. *Briefing paper: Higher-order skills involved in the basics—reading, writing, and mathematics.* Washington, D.C.: Program on Teaching and Learning, National Institute of Education, 1982.

Shapson, S. M., Wright, E. N., Eason, G., & Fitzgerald, J. An experimental study of the effects of class size. *American Educational Research Journal,* 1980, *17,* 141–152.

Slavin, R. E. Classroom reward structure: An analytical and practical review. *Review of Educational Research,* 1977, *47,* 633–650.

Slavin, R. E. Cooperative learning: A research synthesis. *Educational Leadership,* 1981, *38,* 644–660.

Smith, M. S., & Bissell, J. S. Report analysis: The impact of Head Start. *Harvard Educational Review,* 1970, *40,* 41–104.

Soar, R. S. & Soar, R. M. An empirical analysis of selected Follow Through programs: An example of a process approach to evaluation. In I. J. Gordon (Ed.), *Early childhood education.* Chicago: University of Chicago Press, 1972.

Stallings, J. A. Implementation and child effects of teaching practices in Follow Through classrooms. *Monographs of the Society for Research in Child Development,* 1975, *40,* 1–119.

Stallings, J. A. What research has to say to administrators of secondary schools about effective teaching and staff development. In K. Duckworth, E. Kehoe, W. DeBevoise, & F. Donovan (Eds.), *Creating conditions for effective teaching.* Eugene, Ore.: Center for Educational Policy and Management, University of Oregon, 1981.

Stallings, J. A., & Kaskowitz, D. H. *Follow Through classroom observation evaluation 1972–1973.* Menlo Park, Calif.: Stanford Research Institute, 1974.

Stow, S. B. Using effectiveness research in teacher evaluation. *Educational Leadership,* 1979, *37,* 55–58.

Summers, A. A., & Wolfe, B. L. Which school resources help learning? Efficiency and equity in Philadelphia Public Schools (ED 139847). *IRCD Bulletin,* 1979, *11,* 1–15.

Tomlinson, T. M. Effective schools: Mirror or mirage? *Today's Education,* April/May 1981, pp. 48–50.

CHAPTER V.

EFFECTIVE SCHOOLING PRACTICES MATERIALS PRODUCED BY THE NORTHWEST REGIONAL EDUCATIONAL LABORATORY, PREPARED BY RON SMITH JANUARY 1983

1. EFFECTIVE SCHOOLING PRACTICES, RESEARCH REFERENCES
2. EFFECTIVE SCHOOLING BIBLIOGRAPHY, RESEARCH REFERENCES
3. EFFECTIVE SCHOOLING BIBLIOGRAPHY, RESOURCE KIT REFERENCES

Effective Schooling Practices

Research References

prepared by

Ronald M. Smith

Northwest Regional Educational Laboratory

January 1983

Northwest Regional Educational Laboratory
300 S. W. Sixth Avenue
Portland, Oregon 97204

COMPETENCY
BASED
EDUCATION
PROGRAM

This document relates sections of the booklet, "Effective Schooling Practices", to the research literature which undergirds them. Not all relevent citations are shown. The effort focused on highlighting the more prominent studies supporting areas of effective practice.

Studies are cited by the last name of the first author listed in the full reference and the year of publication. Consult the companion document, "Effective Schooling Bibliography, Research References," for full information.

EFFECTIVE SCHOOLING PRACTICES

References

LEADERSHIP: Fueling the fire and fanning the flame

What the school needs:

Edmonds (1979)
Purkey (1982)
Leithwood (1982)
Weber (1971)
New York SDE (1974)
Madden (1976)
Venezky (1979)
Edmonds (1979)
Brookover (1977)

What's working already:

Brookover (1979)a
Edmonds (1979)
Madden (1976)
New York SDE (1974)
Weber (1971)

Overall school status quo:

Brookover (1977)
Crandall (1982)
Edmonds (1979)
Leithwood (1982)
Madden (1976)
New York SDE (1974)
Weber (971)

Goals for change:

Bossert (1982)
Blumberg (1980)
Brundage (1980)
Clark (1980)
Duke (1982)
Leithwood (1982)
Lipham (1981)
Wellisch (1978)

A plan for improvement:

Berman (1979)
Emrick (1977)
Hargrove (1981)
Little (1981)
Purkey (1982)
Stallings (1981)

Getting the staff ready:

Armor (1976)
Brookover (1979)
Emrick (1977)
Gross (1971)
Levine (1981)
Little (1981)
Reinhardt (1979)
Stallings (1981)
Venezky (1979)
Wilson (1981)

Lining up resources:

Berman (1978)
Edmonds (1979)
Hall (1980)
Reinhardt (1979)
Rosenblum (n.d.)
Venezky (1979)

Keeping the school on target:

Brookover (1977)
Edmonds (1979)
Leithwood (1982)
Madden (1976)
New York, SDE (1974)
Venezky (1979)
Weber (1971)

Fine tuning:

Austin (1978)
Berman (1978)
Leithwood (1982)
Venezky (1979)

SCHOOL IMPROVEMENT: We're all in this together

Students are expected to learn:

Armor (1975)
Berliner (1979)
Brookover (1979)
Brundage (1980)
Edmonds (1978, 1979)
New York SDE (1974)
Madden (1976)
Rutter (1979)
Weber (1971)
Weiss (1975)
Wellisch (1978)

Students are expected to behave:

Brookover (1979)
California SDE (1977)
Edmonds (1978, 1979)
New York SDE (1974)
Madden (1976)
Michigan SDE (1974)
Rutter (1979)
Stallings (1981)
Thompson (1967)
U. S./DHEW (1978)
Weber (1971)

There are expectations for staff:

Austin (1979)
Brookover (1979)
Cotton (1980)c
Dornbush (1975)
Duke (1982)
Edmonds (1979)
Gross (1965)
Leithwood (1982)
Lipham (1981)
Rosenblum (n.d.)
Wellisch (1978)

Everyone knows that time is used for learning:

Brookover (1979)
Denham (1980)
Fisher (1980)
Glass (1977)
Murphy (1982)
Stallings (1981)
Wiley (1974)
Wilson (1981)

There are incentives and rewards for students and teachers:

Armor (1976)
Brookover (1979)a
Brookover (1979)b
Gross (1965)
Hall (1980)
Lipham (1981)
Wynne (1980)

Parents are involved:

- Armor (1976)
- Brookover (1977)
- California SDE (1977)
- Cotton (1980)b
- Levine (1981)
- New York SDE (1974)
- Olivero (1980)
- Wilson (1981)

CLASSROOM INSTRUCTION AND MANAGEMENT: Teachers make a difference

Standards for how students behave:

- Anderson (1980)
- Brophy (1970)
- Emmer (1980)a, b, c
- Emmer (1982)
- Evertson (1982)b
- Good (1979)a
- Kounin (1977)
- Rutter (1979)
- Sanford (1981)

Clear routines and procedures:

- Armor (1976)
- Brophy (1979)
- Edmonds (1979)
- Emmer (1982)
- Emmer (1980)b, c
- Evertson (1982)b
- Kounin (1977)
- Medley (1979)
- Sanford (1981)

Managing student behavior:

Brophy (1974)
Brophy (1979)
Cooley (1980)
Emmer (1980)a
Emmer (1982)
Evertson (1980)
Evertson (1982)b
Good (1979)a
Kounin (1974)
Kounin (1977)
Medley (1978)
O'Leary (1979)
Sanford (1981)
Soar (1973)

Standards for learning:

Berliner (1979)
Block (1976)
Bloom (1976)
Brookover (1979)
Good (1978)
PDK (1980)
Rist (1970)
Rosenshine (1982)

Placement and grouping:

Brookover (1979)
California SDE (1977)
Good (1979)a
Medley (1979)
Ramey (1979)
Rosenshine (1979)
Rosenshine (1982)
Stallings (1974)
Stallings (1979)
Webb (1980)
Wellisch (1978)

Stage setting:

Block (1976)
Bloom (1976)
Good (1979) b,c
Levin (1981)
Rosenshine (1982)
Stallings (1979)

Instruction and direction:

- Becker (1980)
- Becker (1977)
- Berliner (1976)
- Brophy (1979)
- Cobb (1973)
- Crawford (1975)
- Duffy (1980)
- Evertson (1982)
- Fitzpatrick (1982)
- Gage (1978)
- Good (1977)
- Good (1979) a,b,c
- Hunter (1977)
- Kennedy (1978)
- Larkin (1976)
- Levine (1981)
- Levine (1982)
- Lortie (1975)
- McKenzie (1979)
- Medley (1978)
- Rosenshine (1979)
- Rosenshine (1982)
- Rutter (1979)
- Soar (1973)
- Stallings (1979)

Time for learning:

- Arlin (1979)
- Berliner (1979)
- Brookover (1979)
- Cohen (1982)
- Cooley (1980)
- Denham (1980)
- Gambrell (1981)
- Glynn (1973)
- Ramey (1982)
- Rosenshine (1978)
- Rosenshine (1979)
- Rosenshine (1982)
- Stallings (1974)
- Stallings (1980)
- Wyne (1979)

Review and Reteaching:

- Block (1976)
- Bloom (1976)
- Burns (1979)
- Hyman (1979)
- Levin (1981)
- Reid (1980)
- Rosenshine (1982)

Interacting with students:

- Emmer (1981)
- Evertson (1981)
- Rutter (1979)

Rewarding students:

- Brophy (1980)
- Brophy (1981)
- Emmer (1981)
- Evertson (1981)
- Hunter (1977)
- Rosswork (1977)
- Rutter (1979)
- Walker (1976)

CURRICULUM: Blueprint for learning

What students are expected to learn:

- Blumberg (1980)
- Doherty (1981)
- Cohen (1982)
- Edmonds (1979)
- Leithwood (1982)
- McGeown (1979-80)
- Niedermeyer (1981)
- Sarason (1971)
- Venezky (1979)
- Wilson (1981)

Resources to help them learn it:

- Blumberg (1980)
- Doherty (1981)
- Edmonds (1979)
- Jorgenson (1977)
- Leithwood (1982)
- Sarason (1971)
- Venezky (1979)

Approaches that help teachers teach:

Behr (1981)
Blumberg (1980)
Denham (1980)
Doherty (1981)
Edmonds (1979)
Jorgenson (1977)
Leithwood (1982)
Rosenshine (1982)
Rutter (1979)
Sarason (1971)
Venezky (1979)

ASSESSMENT AND EVALUATION: Knowledge is power

Planning for student assessment:

Bachelor (1982)
Behr (1981)
Berliner (1979)
Bloom (1974)
Brookover (1977)
Cohen (1981)
Cohen (1982)
Edmonds (1979)
Levine (1982)
Madden (1976)
Milazzo (1982)
New York SDE (1974)
Niedermeyer (1981)
Weber (1971)
Wellisch (1978)
Wynne (1980)

Finding out how they're doing and letting them know:

Bachelor (1982)
Behr (1981)
Berliner (1979)
Bloom (1974)
Brookover (1977)
Cohen (1981)
Edmonds (1979)
Madden (1976)
Medley (1979)
Milazzo (1982)
New York SDE (1974)
Weber (1971)
Wynne (1980)

Taking advantage of new information:

- Bachelor (1982)
- Behr (1981)
- Berliner (1979)
- Bloom (1974)
- Brookover (1977)
- Cohen (1981)
- Edmonds (1979)
- Madden (1976)
- Medley (1979)
- New York SDE (1974)
- Weber (1971)
- Wynne (1980)

Keeping teachers on target:

- Austin (1979)
- Brookover (1979)
- Cotton (1980)c
- Dornbush (1975)
- Duke (1982)
- Gross and (1965)
- Katz (1976)
- Leithwood (1978)
- Lipham (1980)
- Lipham (1981)
- Madden (1976)
- Michigan SDE (1974)
- Rosenblum (n.d.)

Effective Schooling Bibliography

Research References

prepared by

Ronald M. Smith

Northwest Regional Educational Laboratory

January 1983

Northwest Regional Educational Laboratory
300 S. W. Sixth Avenue
Portland,Oregon 97204

This bibliography lists studies, reviews, syntheses and commentaries that contributed to the development of the booklet, "Effective Schooling Practices," a document prepared by the Northwest Regional Educational Laboratory for use in the Alaska Effective Schooling Program, funded by the Alaska Department of Education.

It contains all of the major sources considered in preparing the effective practices synthesis displayed in the booklet. It is not a comprehensive bibliography of the schooling effectiveness literature.

To assist the user of this bibliography, the preparer selected citations from the more commonly available sources, when possible. This 'bibliography' will be revised as new research and analysis add to the knowledge base.

While all 241 citations will be of interest to some, the casual reader will find a few select citations to offer a reasonably well-rounded view of the literature. The ten citations below represent a good point of departure for further reading in the research base.

- Block (1976)
- Bossert (1982)
- Brophy (1979)
- Denham (1980)
- Edmonds (1979)
- Leithwood (1982)
- Purkey (1982)a
- Rosenshine (1982)
- Rutter (1979)
- Savard (1982)

Anderson, L. M. and others. "An Experimental Study of Effective Teaching in First-Grade Reading Groups." Elementary School Journal, 79, 193-222, 1979.

_____. "Dimensions in Classroom Management Derived from Recent Research. Journal of Curriculum Studies, 12, 343-356, 1980.

_____. "Principles of Small Group Instruction in Elementary Reading." East Lansing, Mich.: Institute for Research on Teaching, Michigan State University, 1982.

Anderson, L. W. and Scott, C. "The Relationship Among Teaching Methods, Student Characteristics, and Student Involvement in Learning." Journal of Teacher Education, 29:3, 52-57, 1978.

Arlin, M., "Teacher Transitions Can Disrupt Time Flow in Classrooms." American Educational Research Journal, 16, 42-56, 1979.

Armor, D. and others. Analysis of the School Preferred Reading Program in Selected Los Angeles Minority Schools. Santa Monica, Ca: Rand Corporation, 1976.

Austin, G. R. "Exemplary Schools and the Search for Effectiveness." Educational Leadership, 37, 10-14, 1979.

_____. Process Evaluation: A Comprehensive Study of Outliers. ED 160 644 Baltimore, Md.: Maryland State Department of Education, 1978.

Averich, H. A., and others. How Effective is Schooling? A Critical Review and Synthesis of Research Findings. Santa Monica, CA: Rand, 1972.

Bachelor, B. IAI Information and Priority District Programs: A Case Study Involving the Instructional Accomplishments of Hispanic Students in Racially Isolated Schools. Los Alamos, CA: SWRL Educational Research and Development, March, 1982.

Baldridge, J. V., and Deal, T. E. (editors) Managing Change in Educational Organizations: Sociological Perspectives, Strategies and Case Studies. Berkeley, CA: McCutchan, 1975.

Barr, R. and Dreeben, R. "Instruction in Classrooms," Review of Research in Education (L. S. Shulman, editor). Itasca, IL: Peacock, 1977.

Becker, W. C. "Teaching Reading and Language to the Disadvantaged -- What We Have Learned From Field Research." Harvard Educational Review, 47, 518-543, 1977.

Becker, W. and Carnine, D. "Direct Instruction: An Effective Approach for Educational Intervention with the Disadvantaged and Low Performers." In Advances in Clinical Child Psychology, edited by B. J. Lahey and A. E. Kazdin, New York: Plenum Press, 1980.

Beckerman, T. and Good, T. L. "The Classroom Ratio of High- and Low-Aptitude Students and its Effects on Achievement." American Educational Research Journal, 18, 317-327. 1981.

Behling, H. Effective Schools and Effective Classrooms. Baltimore, Maryland: Maryland State Department of Education, 1981.

Behr, G. "Test-Wiseness: Using Test Information for Planning Instruction." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February 1982.

Behr, G. and Bachelor, B. Identifying Effective Schools -- A Case Study Involving Black Racially Isolated Minority Schools and Instructional Accomplishments/Information Systems. Los Alamos, CA: SWRL Educational Research and Development, May, 1981.

Benjamin, Robert I. Making Schools Work. New York: Continuum Publishing Corporation, 1981.

Berliner, D. C. "A Status Report on the Study of Teacher Effectiveness." Journal of Research in Science Teaching, 13, 369-382, 1976.

_____. "Tempus Educare." Research in Teaching. (P. Peterson and H. Walberg, editors) Berkeley: McCutchan, 1979.

Berman, P. and McLaughlin, M. An Exploratory Study of School District Adaptation. Santa Monica, CA: Rand Corporation, 1979.

Block, J. H. and Burns, R. B. "Mastery Learning." Review of Research in Education, Vol. 4. (L. S. Schulman, editor) Itasca, Illinois: F. E. Peacock, 1976.

Bloom, B. S. "Time and Learning," American Psychologist, 29, 682-688. 1974.

_____. Human Characteristics and Student Learning. New York: McGraw-Hill, 1976.

Blumberg, A. and Greenfield, W. The Effective Principal. Boston: Allyn & Bacon, 1980.

Bossert, S. T. and others. "The Instructional Management Role of the Principal." Educational Administration Quarterly, 18, 34-64; Summer, 1982.

Bredo, A. E. "Principal-Teacher Influence Relations in Secondary Schools." Paper presented at the annual meeting of the American Educational Research Association, New York. April 1977.

Brookover, W. B. "Effective Schools." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February 1982.

_____. Effective Secondary Schools. Philadelphia: Research for Better Schools, Inc., 1981.

Brookover, W. B. and Lezotte, L. W. Changes in School Characteristics Coincident with Changes in Student Achievement. East Lansing: Michigan State University, College of Urban Development, 1979.a

Brookover, W. B. and Schneider, J. M. "Academic Environments and Elementary School Achievement." Journal of Research and Development in Education, 9:1, 82-91, 1975.

Brookover, W. B., and others. "Elementary School Social Climate and School Achievement". American Educational Research Journal, 15:2, 301-318, 1978.

_____. School Social Systems and Student Achievement: Schools Can Make a Difference. New York: Praeger Publishers, 1979.b

Brophy, J. "Teacher Behavior And Its Effects." Journal of Educational Psychology, 71, 733-750, 1979.

_____. "On Praising Effectively," The Elementary School Journal, 81:5, May, 1981

_____. Teaching Praise: A Functional Analysis. East Lansing, Michigan: The Institute for Research on Teaching, 1980.

Brophy, J. and Evertson, C. "Context Variables in Teaching." Educational Psychologist, 12, 310-316, 1978.

_____. Learning From Teaching: A Developmental Perspective. Boston: Allyn & Bacon, 1976.

_____. Process-Product Correlations in the Texas Teacher Effectiveness Study: Final Report. Austin: The University of Texas, June, 1974.

Brophy, J. E. and Good, T. "Teachers' Communication of Differential Expectations for Children's Classroom Performance: Some Behavioral Data." Journal of Educational Psychology, 61, 365-374, 1970.

Brophy, J.E. and Good, T. L. Teacher-Student Relationships: Causes and Consequences. New York: Holt, Rinehart and Winston, Inc., 1974.

Brundage, D. (ed.) The Journalism Research Fellows Report: What Makes an Effective School? Washington, D. C.: George Washington University, 1979.

Burlingame, M. "Coordination, Control and Facilitation of Instruction Within Schools." Paper presented at the School Organization and Effects Conference of the National Institute of Education, San Diego, California. January 1978.

Burns, R. B. "Mastery Learning. Does It Work?" Educational Leadership, 37:2, 110-113, November, 1979

Caldwell, W. E. and Lutz, F. W. The Effect of the Senior High School Principal's Rule Administration Behavior on Staff Militancy and Leadership Perception. ED 079 835. March 1, 1973.

_____. "The Measurement of Principal's Rule Administration Behavior and its Relationship to Educational Leadership." Educational Administration Quarterly, 1978, 14, 63-79.

California Department of Education. School Effectiveness Study: The First Year. Sacramento, CA: California Department of Education, Office of Program Evaluation and Research, 1977.

Cantrell, R. P. and others. "Teacher Knowledge Attitudes, and Classroom Teaching Correlates of Student Achievement. Journal of Educational Psychology, 69:2, 1972-79, 1977.

Carnine, D. "Barriers to Increasing Student Achievement." Mimeographed. Eugene, OR: University of Oregon, 1981.

_____. "Components of the Direct Instruction Model." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February 1982.

Carnine, D., Gersten, R. and Green, S. "The Principal as Instructional Leader: A Second Look." Educational Leadership, 40: 47-50. 1982.

Centra, J. A. and Potter, D. A. "School and Teacher Effects: An Interrelational Model." Review of Educational Research, 50, 273-292, 1980.

Charters, W. W., Jr. "Administrative Success: An Artifactual Finding." American Educational Research Journal, 16, 197-199, 1979.

_____. Measuring the Implementation of Differentiated Staffing: A Comparison of Two Elementary Schools Eugene, OR: Center for the Advanced Study of Educational Administration, 1973.

Chesler, M., Schmuck, R. A. and Lippitt, R. "The Principal's Role in Facilitating Innovation." Managing Change in Eductional Organizations (J. V. Baldridge and T. E. Deal, editors). Berkeley, CA: McCutchan, 1975.

Clark, D., Lotto, L. and McCarthy, M. "Factors Associated with Success in Urban Elementary Schools." Phi Delta Kappan, 61:7, 467-470; March, 1980.

Cobb, J. A. & Hops, H. "Effects of Academic Survival Skill Training on Low Achieving First Graders." The Journal of Educational Research, 67:3, 108-113, 1973

Cohen, E. G. and Miller, R. H. "Coordination and Control of Instruction in Schools." Pacific Sociological Review, 23, 446-473, 1980.

Cohen, M. "Effective Schools: Accumulating Research Findings." American Education, January-February, 1982.

_____. "Effective Schools: What the Research Says." Today's Education, 46-48, April-May, 1981.

Cohen, S. A. "Mastery Learning: What is it? How do we get it? How do we know we have it?" Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February 1982.

Cohen, S. A. and Hyman, J. "Two Components of Quality Instruction," Outcomes, 1, 2-4, Winter, 1982.

Coker, H. and others. "Teacher Behavior and Student Outcomes in the Georgia Study." Paper presented at the American Educational Research Association Annual Meeting, Boston, Mass., 1980.

Coldarci, T., and Gage, N. Minimal Teacher Training Based on Correlational Findings: Effects on Teaching and Achievement. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, April, 1981.

Cooley, W. W. and Leinhardt, G. "The Instructional Dimensions Study." Educational Evaluation and Policy Analysis, 2:1, 7-25, 1980.

Cotton, K. and Savard, W. Class Size. Portland: Northwest Regional Educational Laboratory, December, 1980.a

_____. Direct Instruction. Portland: Northwest Regional Educational Laboratory, February 1982.a

_____. Instructional Grouping: Ability Grouping. Portland: Northwest Regional Educational Laboratory, May 1981.a

_____. Instructional Grouping: Group Size. Portland: Northwest Regional Educational Laboratory, May 1981.b

_____. Mastery Learning. Portland: Northwest Regional Educational Laboratory, June, 1982.b.

_____. The Principal as Instructional Leader. Portland: Northwest Regional Educational Laboratory, December, 1980. c

_____. Parent Participation. Portland: Northwest Regional Educational Laboratory, December, 1980.b

_____. Student Discipline and Motivation. Portland: Northwest Regional Educational Laboratory, April, 1982.c

_____. Time Factors in Learning. Portland: Northwest Regional Educational Laboratory, February, 1981.c

Crandall, D., and others. "Models of the School Improvement Process: Factors Contributing to Success." Paper presented at the annual meeting of the American Educational Research Association, New York, N. Y., March, 1982.

Crawford, W. J., and others. "Error Rates and Question Difficulty Related to Elementary Children's Learning." Paper presented at the annual meeting of the American Educational Research Association, Washington, D. C., April 1975.

Crowson, R. L. and Porter-Gehrie, C. The School Principalship: An Organizational Stability Role. Paper presented at the annual meeting of the American Educational Research Association, Boston. April 1980.

Datta, L. E. "Changing Times: The Study of Federal Programs Supporting Educational Change and the Case for Local Problem Solving." Teachers College Record, 82, 101-115. 1980.

_____. "Damn the Experts and Full Speed Ahead." Evaluation Review, 5, 5-31. 1981.

Davies, D. "Citizen Participation and School Effectiveness." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February 1982.

Deal, T. and Celotti, L. "How Much Influence Do (And Can) Administrators Have on Classrooms?" Phi Delta Kappan, 61, 471-473. 1980.

Delon, F. G. and Evans, G. W. "Organizational Theory and the Secondary School Principal." Journal of Experimental Education, 45, 33-37. 1976.

Denham, C. & Lieberman, A. (Eds.). Time to Learn: A Review of the Beginning Teacher Evaluation Study. Washington, D.C.: National Institute of Education, 1980.

Doherty, V. and Peters, L. "Goals and Objectives in Educational Planning and Evaluation." Educational Leadership. 38, 606-611. May, 1981.

Dow, I. I. and Whitehead, R. Y. Curriculum Implementation Study, Physical Education K-6: Personal Well-Being. Funded under contract with the Carleton Board of Education, University of Ottawa, September 1980.

Doyle, Walter. "Making Managerial Decisions in Classrooms." In The 78th Yearbook of the National Society for the Study of Education, (Edited by Daniel Duke). Chicago: University of Chicago Press, 42-74. 1979.

_____. "Paradigms for Research on Teacher Effectiveness." In Review of Research on Education, Volume 5, 163-198, (Edited by L. Schulman), Itasca, Illinois: F. E. Peacock, 1978,.

Duffy, G. G. Teacher Effectiveness Research: Implications for the Reading Profession. East Lansing, Mich.: The Institute for Research on Teaching, College of Education, Michigan State University, 1980.

Duke, D. "Leadership Functions for Instructional Effectiveness." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February, 1982.

Durkin, D. "What Classroom Observation Reveals about Reading Comprehension Instruction. Reading Research Quarterly, 14, 481-533, 1978-1979.

Ebmeier, H. and Good, T., "An Investigation of the Interactive Effects Among Student Types, Teacher Types, and Instruction Types on the Mathematics Achievement of Fourth Grade Students." American Educational Reseach Journal, 16, 1-16, 1979.

Edmonds, R. R. "Effective Schools for the Urban Poor." Educational Leadership, 37, 15-27, October 1979.a

_____. "Making Public Schools Effective." Social Policy, 12:2, 1981.

____. "Some Schools Work and More Can." Social Policy, 9:28-32, 1979.b

Edmonds, R. R. & Frederiksen, J. R. Search for Effective Schools: The Identification and Analysis of City Schools That Are Instructionally Effective for Poor Children, ED 179 396, 1979.

Emmer, E. T. and Evertson, C. M. "Effective Management at the Beginning of the School Year in Junior High Classes." Report No. 6107. Austin, Texas: Research and Development Center for Teacher Education, University of Texas, 1980.a

_____. Teacher's Manual for the Junior High Classroom Management Improvement Study. Austin, Texas: R & D Center for Teacher Education, University of Texas, 1981.

Emmer, E. T., Evertson, C. M., and Anderson, L. "Effective Management at the Beginning of the School Year." Elementary School Journal, 80, 219-231, 1980.b

Emmer, E. T. and others. "Improving Classroom Management: An Experimental Study In Junior High Classrooms." Austin, Texas: R & D Center for Teacher Education, University of Texas, 1982.

Emrick, J. A. Evaluation of the National Diffusion Network (Volume I: Findings and Recommendations). Stanford, CA: The Stanford Research Institute, 1977.

Erickson, D. A. "Research on Educational Administration: The State-of-The-Art." Educational Researcher, 8, 9-14. 1979.

Evertson, C. M. "Differences in Instructional Activities in Higher and Lower Achieving Junior High English and Mathematics Classrooms." Elementary School Journal, 82, 329-351, 1982.a

_____. "What Research Tells Us About Managing Classroom Instruction Effectively." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February, 1982.c

Evertson, C., Anderson, C. and Anderson, L. "Relationship Between Classroom Behavior and Student Outcomes in Junior High Math and English Classes." American Elementary Research Journal, 17, 43-60, 1980.a

Evertson, C. M., Emmer, E. T. and Brophy, J. E. "Predictors of Effective Teaching in Junior High Mathematics Classrooms." Journal of Research in Mathematics Education, 11, 167-178, 1980.b

Evertson, C. M. and others. "Improving Classroom Management: An Experimental Study in Elementary Classrooms." Austin, Texas: R & D Center for Teacher Education, University of Texas, 1982.b

_____. Organizing and Managing the Elementary School Classroom. Austin, Texas: Research and Development Center for Teacher Education, University of Texas, 1981.

Felsenthal, H. "Factors Influencing School Effectiveness: An Ecological Analysis of an Effective School." University of Pennsylvania: Graduate School of Education. Paper presented at the annual meeting of the American Educational Research Association, New York, N.Y., 1982.

Firestone, G. and Brody, N. "Longitudinal Investigation of Teacher-Student Interactions and their Relationship to Academic Performance." Journal of Educational Psychology, 67, 544-550, 1975.

Fitzpatrick, K. A. "The Effect of a Secondary Classroom Management Training Program on Teacher and Student Behavior." Paper presented to the annual meeting of the American Educational Research Association, New York, NY, 1982.

Franklin, H., Nickens, J. and Appleby, S. "What Activities Keep Principals the Busiest?" NASSP Bulletin. 64:433, 74-80. 1980.

Gage, N. L. The Scientific Basis of the Art of Teaching. New York: Teachers' College Press. 1978.

Gambrell, L., and others. "Classroom Observations of Task-Attending Behaviors of Good and Poor Readers." Journal of Educational Research, 74, 400-405, 1981.

Garner, W. T. "Linking School Resources to Educational Outcomes: The Role of Homework." Research Bulletin (Horace-Mann-Lincoln Institute), 19, 1-10. 1978.

Glass, G. V. and Smith, M. L. "Pull Out" in Compensatory Education. Boulder, Col.: Laboratory of Educational Research, University of Colorado, 1977.

Glenn, B. C. What Works: An Examination of Effective Schools for Poor Black Children. Cambridge, Mass.: Center for Law and Education, Harvard University, 1981.

Glynn, E. and others. "Behavioral Self-Control of On-Task Behavior in an Elementary Classroom." Journal of Applied Behavior Analysis, 6, 105-113, 1973.

Goldhammer, K. and Becker, G. Elementary School Principals and Their Schools. Eugene, OR: Centre for the Advanced Study of Educational Administration, 1971.

Good, T. L. "Teacher Effectiveness in the Elementary School: What We Know About It Now." Journal of Teacher Education, 30, 52-64, 1979.a

Good, T. L. and Grouws, D. A. "Teaching and Mathematics Learning." Educational Leadership, 37, 39-45, 1979.b

_____. "The Missouri Mathematics Effectiveness Project: An Experimental Study in Fourth-Grade Classrooms." Journal of Educational Psychology, 71:3, 355-362, 1979.c

_____. "Teaching Effects: A Process-Product Study in Fourth-Grade Mathematics Classrooms." Journal of Teacher Education, 28, 49-54, 1977.

Good, T. L. and others. "Curriculum Pacing: Some Empirical Data in Mathematics." Journal of Curriculum Studies, 10, 75-82, 1978.

Goodlad, J. I. and Klein, M. F. Behind the Classroom Door. Belmont, CA: Wadsworth, 1970.

Governor's Task Force on Effective Schooling. Effective Schooling Practices, Juneau, AK: Alaska Department of Education, January, 1981.

Greeno, J. "Understand and Procedural Knowledge in Mathematics Instruction." Educational Psychologist, 12, 262-283, 1978.

Greer, C. The Principal as Educator. ED 054 537. New York: The Center for Urban Education, 1970.

Hall, G. "Changing Programs from a Concerns-Based Perspective." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland OR, February, 1982.

Hanson, M. "Beyond the Bureaucratic Model: A Study of Power and Autonomy in Educational Decision-Making," Interchange, 7:2, 27-38. 1976-77.

Hargrove, E. C. and others. Regulations and Schools: The Implementation of Equal Education for Handicapped Children. Nashville, TN: Institute for Public Policy Studies, Vanderbilt University, 1981.

Harnischfeger, A. and Wiley, D. E. "The Teaching-Learning Process in Elementary Schools: A Synoptic View." Curriculum Inquiry, 6, 5-43, 1976.

Hauser, R. M. and others. "High School Effects on Achievement." Schooling and Achievement in American Society (W. H. Sewell and others, editors), New York: Academic Press, 1976.

Hersh, R. What Makes Some Schools and Teachers More Effective? Eugene, Oregon: University of Oregon, 1981.

Hord, S. M. Analyzing Administrator Intervention Behaviors. Paper presented at the annual meeting of the Southwest Educational Research Association, Dallas, Texas, 1981.

Houts, P. "The Changing Role of the Elementary School Principal," The National Elementary School Principal, 55:2, 62-72. 1975.

Huling, L. L., Hall, G. B., and Hord, S. M. Effects of Principal Interventions on Teachers During the Change Process. Paper presented at the annual meeting of the American Educational Research Association, New York City, 1982.

Hunter, M. G. "Final Report of the Michigan Cost-Effectiveness Study." East Lansing, Mich.: Michigan Department of Education, 1979.

Hunter, M. and Russell, D. "Planning for Effective Instruction: Lesson Design." Instructor, September 1977.

Hyman, J. and Cohen, S. A. "Learning for Mastery: The Conclusions After 15 Years and 3,000 Schools." Educational Leadership, 37:2, 104-109, November 1979.

Irvine, D. J. "Factors Associated with School Effectiveness." Educational Technology, 19:5, 53-55, May 1979.

Jorgenson, Gerald. "Relationship of Classroom Behavior to the Accuracy of the Match Between Material Difficulty and Student Ability." Journal of Educational Psychology, 69, 24-32, 1977.

Kean, M. H. and others. "What Works in Reading?" ED 176-216. (Summary of Joint School District/Federal Reserve Bank Study). Unpublished manuscript in school district of Philadelphia, Office of Research and Evaluation, 1979.

Kennedy, J. J. and others. "Additional Investigations into the Nature of Teacher Clarity." Columbus, Ohio: College of Education, The Ohio State University. Paper presented to the annual meeting of the American Educational Research Association, Toronto, Canada, March, 1978.

Kleinfeld, J. "Effective Teachers of Indian and Eskimo Students." School Review, 83, 301-344, 1975.

Klitgaard, R. E. and Hall, G. R. A Statistical Search for Unusually Effective Schools. Report No. R-1210-CC/RC. Santa Monica: The Rand Corporation, 1973.

Kounin, J.S. Discipline and Group Management in Classrooms. Huntington, N.Y.: Robert E. Krieger Publishing Company, 1977.

Kounin, J. S., and Gump, P. V. "Signal Systems of Lesson Settings and the Task-Related Behavior of Preschool Children." Journal of Educational Psychology, 66:4, 554-562, 1974.

Krajewski, R. J. "Instructional Improvement: A Cooperative Venture." Kappa Delta Pi Record, 16:2, 58-59. 1979.

Larkin, J. H. and Reif, F. "Analysis and Teaching of a General Skill for Studying Scientific Text." Journal of Educational Psychology, 68, 431-440, 1976.

Leithwood, K. A. and Montgomery, D. J. "The Role of the Elementary School Principal in Program Improvement," Review of Educational Research, 52:3, 309-339. Fall 1982.

Leithwood, K. A., and others. An Empirical Investigation of Teachers' Curriculum Decision-Making Processes and Strategies Used by Curriculum Managers to Influence Such Decision-Making. Toronto, Canada: OISE, 1978.

Levin, T. Effective Instruction. Alexandria, Va.: Association for Supervision and Curriculum Development, 1981.

Levine, D. "Successful Approaches for Improving Academic Achievement in Inner-City Elementary Schools." Phi Delta Kappan, 63:8, 523-526, April 1982.

Levine, D. and Stark, J. Instructional and Organizational Arrangements and Processes for Improving Academic Achievement at Inner City Elementary Schools. Kansas City: University of Missouri, August, 1981.

_____. Extended Summary and Conclusions: Institutional and Organizational Arrangements and Processes for Improving Academic Achievement at Inner City Elementary Schools (mimeo). Kansas City, MO: University of Missouri - Kansas City School of Education, Center for the Study of Metropolitan Problems in Education, August, 1981.

_____. "Instructional and Organizational Arrangements That Improve Achievement in Inner City Schools." Educational Leadership, 40:41-46. 1982.

Lipham, J. A. "Leadership of the Principal for Educational Improvement." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February 1982.

_____. Effective Principal, Effective School. Reston, VA: American Association of Secondary School Principals, 1981.

Little, J. W. School Success and Development: The Role of Staff Development in Urban Desegregated Schools, Executive Summary. National Institute of Education, Washington, D. C., 1981.

Lortie, D. C. School Teacher. Chicago IL: University of Chicago Press, 1975.

Lorzeau, G. A. "The Role of the Principal Today." North Central Association Quarterly, 52:2, 335-340. 1977.

Madaus, G., Airasian, P. and Kellaghan, T. School Effectiveness. New York: McGraw-Hill, 1980.

Madden, J. V. and others. "School Effectiveness Study." Unpublished manuscript, State of California Department of Education, 1976.

Marcus, A. C. and others. Administrative Leadership in a Sample of Successful Schools from the National Evaluation of the Emergency School Did Act. ED 125 123. 1976.

Martin, W. J. and Willower, D. J. "The Managerial Behavior of High School Principals." Educational Administrative Quarterly, 17, 69-90, 1981.

McBeath, G. A. and others. "Achievement and School Effectiveness: Three Case Studies." Fairbanks, AK: Center for Cross-Cultural Studies, University of Alaska. July 1982.

McKenzie, G. R. "Effects of Questions and Test-Like Events on Achievement and On-Task Behavior in a Classroom Concept Learning Presentation." The Journal of Educational Research, 72:6, 348-351, 1979.

McLaughlin, T. F. "Self-Control in the Classroom." Review of Educational Research, 46, 631-663, 1976.

Medley, D. M. Teacher Competence and Teacher Effectiveness: A Review of Process-Product Research. Washington, D.C.: American Association of Colleges for Teacher Education, 1978.

______. "The Effectiveness of Teachers." Research on Teaching: Concepts, Findings and Interpretations (P. L. Peterson and H. Walberg, editors), Berkeley: McCutchan, 1979.

Michigan Department of Education. Michigan Cost-Effectiveness Study: An Executive Summary. December 1974.

Milazzo, P. and Buchanan, A. Equating Instructional Accomplishment Inventories and Standardized Achievement Tests. Los Alamos, CA: SWRL Educational Research and Development, April, 1982.

Milazzo, P., Buchanan, A. and Schutz, R. Methodology for Analysis of IAI District Level Data Bases. Los Alamos, CA: SWRL Educational Research and Development, April, 1981.

Moody, L. and Amos, N. G. The Impact of Principal Involvement in Instructional Planning with Teacher Teams on Academic Achievement of Elementary School Pupils. ED 116 298. 1975.

Morris, V. C., Crowson, R. and Porter-Gehrie, C. The Urban Principal: Discretionary Decision-making in a Large Educational Organization. Chicago, IL: University of Chicago, 1981.

Moskowitz, G. & Hayman, M. L. "Success Strategies of Inner-City Teachers: A Year Long Study." Journal of Educational Research, 69, 283-389, 1976.

Murnane, R. J. "Interpreting the Evidence on School Effectiveness." Working Paper No. 830. New Haven, Conn.: Institution for Social and Policy Studies, Yale University, December 1980.

Murphy, J. and others. "Academic Press: Translating High Expectations into School Policies and Classroom Practices," Educational Leadership, 40:22-26. 1982.

New York State Department of Education, Reading Achievement Related to Educational and Environmental Conditions in 12 New York City Elementary Schools. Albany, N.Y.: Division of Education Evaluation, March 1974.

Niedermeyer, F. and Yelon, S. "Los Angeles Aligns Instruction with Essential Skills." Educational Leadership. 38, 618-620. May, 1981.

O'Reilly, R. "Classroom Climate and Achievement in Secondary School Mathematics Classes." The Alberta Journal of Educational Research, 21, 241-248. 1975.

O'Leary, S. and Dubey, D. "Applications of Self-Control Procedures by Children: A Review." Journal of Applied Behavior Analysis, 12, 449-465, 1979.

Olivero, J. L. The Principalship in California: Keeper of the Dream. The Association of California School Administrators, August, 1980.

Peterson, P. L. and Janicki, T. "Individual Characteristics and Children's Learning in Large-Group and Small-Group Approaches." Journal of Educational Psychology, 71, 677-687, 1979.

Peterson, P. L. and Walberg, H. J. Research on Teaching: Concepts, Findings, and Implications. Berkeley, California: McCutchan, 1979.

Petrie, T. A. The Relationship Between Teacher Perception of the Principal's Developmental Leadership Skills and Rated Effectiveness. Paper presented at the annual meeting of the American Educational Research Association, Boston, April 1980.

Phi Delta Kappa. Why Do Some Urban Schools Succeed? Bloomington, In: Author, 1980.

Purkey, S. C. and Smith, M. S. Effective Schools -- a Review. Paper presented at NIE Conference on Implications of Research on Teaching, Washington, D. C., February 1982.a

_____. "Synthesis of Research on Effective Schools." Educational Leadership. 40, 64-69, December, 1982.b

Ramey, M. and others. "School Characteristics Associated With Instructional Effectiveness." Paper presented at the annual meeting of the American Educational Research Association, New York, N.Y., 1982.

Reid, E. R. "Another Approach to Mastery Learning." Educational Leadership, 38, 170-172, 1980.

Reinhardt, D. and others. A Study of the Principal's Role in Externally Funded Change Projects and the Implication of/for In-Service Training (Volume I). A technical report for the University of Oregon Teacher Corps Project. Eugene, OR: University of Oregon, July 1979.

Rist, R. "Student Social Class and Teacher Expectations: The Self-Fulfilling Prophecy in Ghetto Education." Harvard Educational Review, 40, 411-451, 1970.

Rosenshine, B. V. "Content, Time and Direct Instruction." Research on Teaching: Concepts, Findings and Implications, (P. L. Peterson and H. J. Walberg, editors), Berkeley, California: McCutchan Publishing Company, 1979.

_____. Primary Grades Instruction and Student Achievement Gain. Urbana, Illinois: Bureau of Educational Research, 1977.

_____. "Recent Research on Teaching Behaviors and Student Achievement." Journal of Teacher Education, 27, 61-65, 1976.

_____. "Teaching Functions in Instuctional Programs." Paper presented at NIE conference, Research in Teaching: Implications for Practice, Washington, D. C. 1982.

Rosenshine, B. V. & Berliner, D.C. "Academic Engaged Time." British Journal of Teacher Education, 4, 3-16, 1978.

Rosswork, S. "Goal-Setting: The Effects on an Academic Task With Varying Magnitudes of Incentive." Journal of Educational Psychology, 69, 710-715, 1977.

Rosenblum, S. and Jastrzab, J. The Role of the Principal in Change. Cambridge, MA: Abt Associates, n.d.

Rutter, M. and others. Fifteen Thousand Hours: Secondary Schools and Their Effects on Children. Cambridge, Mass.: Harvard University Press, 1979.

Sanford, J. and Evertson, C. Classroom Management in a Low SES Junior High: Three Case Studies. Journal of Teacher Education, 1981, 32, 34-38, 1981.

Sarason, S. B. The Culture of the School and the Problem of Change. Boston, MA: Allyn & Bacon, 1971.

Savard, W. G. and Cotton, K. Curriculum Alignment. Portland: Northwest Regional Educational Laboratory, August, 1982.

Shoemaker, J. and Fraser, H. "What Principals Can Do: Some Implications from Studies of Effective Schooling." Phi Delta Kappan, 63, 178-182. November, 1981.

Slavin, R. E. "Effects of Individual Learning Expectations on Student Achievement." Journal of Educational Psychology, 72, 520-524. 1980.

Slavin, R. E., and others. *Effects of Student Teams and Individualized Instruction on Student Mathematics Achievement, Attitudes and Behaviors*. Baltimore: Johns Hopkins University, 1982.

Smith, L. M. and Keith, P. M. *Anatomy of Educational Innovation*. New York: John Wiley & Sons, 1971.

Soar, R. S. and Soar, R. M. *Classroom Behavior, Pupil Characteristics, and Pupil Growth for the School Year and the Summer*. Florida: Institute for Development of Human Resources, College of Education, 1973.

Spartz, J. L. and others. *Delaware Educational Accountability System Case Studies: Elementary Schools Grades 1-4*. Dover, Delaware: Delaware Department of Public Instruction, 1977.

Squires, D., Huitt, W. and Segars, J. "Improving Classrooms and Schools: What's Important," *Educational Leadership*, 39, 174-179; December, 1981.

Stallings, J. A. "Allocated Academic Learning Time Revisited, or Beyond Time on Task." *Educational Researcher*, 9, 11-16. 1980.

_____. "How to Change the Process of Teaching Basic Reading Skills in Secondary Schools: Executive Summary." Menlo Park, California: SRI International, 1979

_____. "What Research Has to Say to Administrators of Secondary Schools About Effective Teaching and Staff Development." Paper presented at the conference, Creating Conditions for Effective Teaching. Eugene, OR: Center for Educational Policy and Management, University of Oregon, 1981.

Stallings, J.A. & Hentzell, S. W. "Effective Teaching and Learning in Urban Schools". Paper prepared for the National Conference on Urban Education, Urban Education Program, CEMREL, Inc., St. Louis, Missouri, July 1978.

Stallings, J. A. and Kaskowitz, D. *Follow Through Classroom Observation Evaluation, 1972-1973*. Menlo Park, California: Stanford Research Institute, 1974.

Stallings, J. A. and Mohlman, G. *School Policy, Leadership Style, Teacher Change and Student Behavior in Eight Secondary Schools*. Prepared for the National Institute of Education, Mountain View, CA: Stallings Teaching and Learning Institute, 1981.

Stallings, J. A., and others. *Early Childhood Education Classroom Evaluation*. Final report for Department of Education, State of California. Menlo Park, CA: SRI International, November, 1977.

Sullivan, H. and Niedermeyer, F. "Pupil Achievement Under Varying Levels of Teacher Accountability." SWRL Professional Paper No. 28. Los Alamitos, CA: SWRL Educational Research and Development, 1973.

BEST COPY AVAILABLE

Sweeney, J. "Research Synthesis on Effective School Leadership." Educational Leadership, 39, 346-352; February, 1982.

Tomlinson, T. M. "Student Ability, Student Background and Student Achievement: Another Look at Life in Effective Schools." Paper presented at Conference on Effective Schools sponsored by Educational Testing Service, New York, NY. Washington, D. C.: National Institute of Education, U. S. Department of Education. May, 1980.

U. S. Department of Health, Education and Welfare. Violent Schools -- Safe Schools: The Safe School Study Report to the U. S. Congress, Volume 1. ED 149 464. Washington, D. C.: U. S. Government Printing Office, January 1978.

Utz, R. T. Principal Leadership Styles and Effectiveness as Perceived by Teachers. Paper presented at the annual meeting of the American Educational Research Association, Chicago. April 1972.

Venezky, R. L. and Winfield, L. F. "Schools That Succeed Beyond Expectations in Reading." ED 177 484. Studies in Education. Newark, Delaware: University of Delaware, 1979.

Walberg, H. J. and others. "The Quiet Revolution in Educational Research," The Phi Delta Kappan, 179-183, November, 1979.

Walker, H. M. and Hops, H. "Increasing Academic Achievement by Reinforcing Direct Academic Performance and/or Facilitative Nonacademic Responses." Journal of Educational Psychology, 68:2, 218-225, 1976.

Warren, C. "The Non-Implementation of EEP: All That Money for Business as Usual." Teachers' College Record, 77:3, 358-396. 1976.

Warren, R. L. "Context and Isolation: The Teaching Experience in an Elementary School." Human Organization, 34:2, 139-148. 1975.

Webb, N. M. "A Process-Outcome Analysis of Learning in Group and Individual Settings." Educational Psychologist, 15, 69-83, 1980.

Weber, G. Inner City Children Can Be Taught to Read: Four Successful Schools, Occasional Paper No. 18, Washington, D. C.: Council for Basic Education, 1971.

Weiss, M. and Weiss, P. "Taking Another Look at Teaching: How Lower Class Children Influene Middle-Class Teachers." ED 137223. Paper presented at the annual meeting of the American Anthropological Association, 1975.

Wellisch, J.B. An Indepth Study of Emergency School Aid Act (ESAA) Schools, 1976-1976. ED 155 172. Santa Monica, CA: System Development Corporation. 1977.

Wellisch, J. B. and others. "School Management and Organization in Successful Schools." Sociology of Education, 51, 211-226, 1978.

Wiley, D. and Harnishefeger, A. "Explosion of a Myth: Quantity of Schooling and Exposure to Instruction, Major Educational Vehicles." Educational Researcher, 3, 7-12, 1974.

Westbrook, J. Considering the Research: What Makes an Effective School? Austin, TX: Southwest Educational Development Laboratory, 1982.

Wiggins, T. W. "A Comparative Investigation of Principal Behavior and School Climate." The Journal of Educational Research, 66:3, 103-105. 1972.

Wilkie, R. A. "Garden Springs Elementary School: A Case Study of Educational Innovation." Perspectives on Educational Change (R. I. Miller, editor). New York: Appleton, 1967.

Williams, R. C., and others. Effective Organizational Renewal in Schools. New York: McGraw-Hill, 1974.

Wilson, R. G. "The Effects of District-Wide Variables on Student Achievement." Curriculum Canada III (K. A. Leithwood and A. Hughes, editors), 73-88. Vancouver: University of British Columbia, 1981.

Wolcott, H. F. The Man in the Principal's Office. New York: Holt, Rinehart & Winston, 1978.

Wynne, E. A. Looking at Schools: Good, Bad and Indifferent. Lexington, Mass.: D. C. Heath & Co., 1980.

_____. "Looking at Good Schools." Phi Delta Kappan, 62, 377-381. 1981.

Wyne, M. D. , and Stuck, G. B. "Time-On-Task and Reading Performance in Underachieving Children." Journal of Reading Behavior, 11:2, 119-128, 1979.

Effective Schooling Bibliography

Resource Kit References

prepared by

Ronald M. Smith

Northwest Regional Educational Laboratory

January 1983

Northwest Regional Educational Laboratory
300 S. W. Sixth Avenue
Portland, Oregon 97204

COMPETENCY
BASED
EDUCATION
PROGRAM

"Administrator's Overview: Curriculum Alignment," Los Angeles Unified School District and the Southwest Regional Educational Laboratory, Copyright 1981. Contact LA Unified School District, Division of Integration Planning and Management.

American Association of School Administrators, Time on Task: Using Instructional Time More Effectively. Arlington, VA: AASA, 1982. Contact AASA, 1801 North Moore Street, Arlington, VA 22209, (703) 528-0700. Stock No. 021-00870.

Anderson, Beverly L., Guidelines for Selecting Basic Skills and Life Skills Tests, Northwest Regional Educational Laboratory, ED 190625. Contact NWREL Marketing Department at (503) 248-6800.

Anderson, Lorin W. and Jones, Beau F., "Designing Instructional Strategies which Facilitate Learning for Mastery," Educational Psychologist, 16:121-138, Fall, 1981.

Barber, Carol, "Training Principals and Teachers for Mastery Learning." Educational Leadership, 37:2, 126-127, November 1979.

Behr, George, "Test-Wiseness: Using Test Information for Planning Instruction," Northwest Regional Educational Laboratory, paper presented at conference, April 1982, Contact NWREL Goal Based Education Program at (503) 248-6800.

Brookover, Wilbur B., et al, Creating Effective Schools, Learning Publications, Inc., Box 1326, Dept. CE, Holmes Beach, Florida 33509 (Cat. #34-1, Soft Cover, $24.95 each)

Carnine, Douglas, "Components of the Direct Instruction Model," Northwest Regional Educational Laboratory, Portland, Oregon, paper presented at conference, April 1981. Contact NWREL, Goal Based Education Program at (503) 248-6800.

Cotton, Kathleen and Savard, William G., "Student Discipline and Motivation," Northwest Regional Educational Laboratory, Portland, Oregon, 1982. Contact NWREL Audit and Evaluation Services at (503) 248-6800.

Doherty, Victor W., and Peters, Linda B., "Goals and Objectives in Educational Planning and Evaluation," Educational Leadership, 38:8, 606-611, May 1981.

Duke, Daniel L., "Leadership Functions and Instructional Effectiveness," Northwest Regional Educational Laboratory, 300 S. W. Sixth, Portland, Oregon 97204, 1982 (Unpublished).

Duke, Daniel L., ed., Helping Teachers Manage Classrooms, ASCD, 225 North Washington Street., Alexandria, Virginia 22314, (703) 549-9110. $8.50 each.

Emmer, Edmund T., et al., Organizing and Managing the Junior High Classroom, Communications Services, Education Annex 3.203, R & D Center for Teacher Education, University of Texas at Austin, Austin, Texas 78712-1288, Catalog No. 6151. $5.00 each.

Evertson, Carolyn, "Effective Classroom Managment in the Elementary School," (Videotape/Booklet), ASCD, $195.00, 225 North Washington St., Alexandria, Virginia 22314.

Evertson, Carolyn, et al., Organizing and Managing the Elementary School Classroom, Communications Services, Education Annex 3.203, R & D Center for Teacher Education, University of Texas at Austin, Austin, Texas 78712-1288, (512) 471-1343. Catalog No. 6060. $5.00 each.

Fizpatrick, Kathleen, "The Effect of a Secondary Classroom Management Training Program on Teacher and Student Behavior." Paper presented to the annual meeting of the American Educational Research Association, New York, NY, 1982. Contact Fitzpatrick at 4250 Saratoga, Downers Grove, IL 60515.

Good, Thomas L., et al., "Teachers Manual: Missouri Mathematics Effectiveness Project," University of Missouri, NIE Grant 770003. September 1977. Contact Dr. Good at (314) 882-7888.

Handbook for Developing Schools with Good Discipline, Phi Delta Kappa Commission on Discipline. 1982. Contact PDK at (812) 339-1156.

Hiscox, Suzanne, et al., How to Increase Learning Time, Northwest Regional Educational Laboratory, Portland, Oregon. Contact NWREL Chapter 1 Technical Assistance Center, (503) 248-6800.

"Johnson City Central School District: An Instructional Process", October, 1980, Contact Dr. Albert Mamary, Johnson City School Distrit, 666 Reynolds Road, Johnson City, New York 13790, (607) 729-9211.

Kelly, Ella Mizzell, editor., "The Role of the Secondary School Principal in Improving Basic Skills Instruction: Guide and Resources," developed by the National Study Group of the Basic Skills Improvement Project, June 1982, A. L. Nellum and Associates, Draft Document;, U. S. Office of Education Contract #300-81-0403. Contact A. L. Nellum and Associates at (202) 862-9300.

Neidermeyer, Fred and Yelon, Stephen, "Los Angeles Aligns Instruction with Essential Skills," Educational Leadership, May 1981, pgs. 618-620, Volume 38, No. 8.

Nighswander, James K., A Guidebook for Discipline Program Planning, Cambridge, MA: Oelgeschlager; Gunn and Hain, Publishers, Inc., 1982. $22.50. Available through ASCD (See address under Duke reference.)

__Partners: Parents & Schools__, Ronald S. Brandt, editor, ASCD. (See address under Duke reference.)

Shoemaker, Joan and Fraser, Hugh W., "What Principals Can Do: Some Implications from Studies of Effective Schooling," November 1981, __Phi Delta Kappan__, pgs. 178-182, Vol. 63, No. 3.

Simpson, Cheryl Granade, __Clinical Supervision: A State of the Art Review__, ASCD, Alexandria, Virginia, $3.75 each. (See address under Duke reference.)

Sprick, Randall, __The Solution Book: A Guide to Classroom Discipline__, SRA, $39.50 each. Contact SRA Order Desk at (800) 621-0664.

Stallings, Jane, "Teacher and School Effectiveness," Videotape/Booklet, Association for Supervision and Curriculum Development, Alexandria, Virginia, $195.00 each (videotape). (See address under Duke reference.)

__What's Noteworthy About School Imrovement__ Mid-Continent Regional Educational Laboratory, Summer 1981. $3.00 per copy. Contact McRel at 4709 Belleview Avenue, Kansas City, Missouri 64112.

"Writing District, Program and Course Goals," Oregon Department of Education, Verne Duncan, Superintendent, 942 Lancaster Drive, N.E., Salem, Oregon 97310, 1977, ED 141889. Access only through ERIC.

Zaharis, James and Barnard, Douglas, "Curriculum Anarchy: Managing the Unmanageable," __Educational Leadership__, pgs. 128-129, Volume 39, No. 2.

CHAPTER VI.

LIST OF MATERIALS AVAILABLE AT THE UTAH STATE OFFICE OF EDUCATION

---

* Note: Single copies of each of these publications are kept on file at the State Office of Education. Contact Carla Worthen for further information. Telephone: (801) 533-5330

RESOURCE MATERIALS AVAILABLE

Alaska Department of Education. Research on school effectiveness project. Office of Planning and Research, Northwest Regional Educational Laboratory, 1980.

American Association of School Administrators. *Time on task*. Author, Arlington, VA., 1982.

Northern Cheyenne Follow Through Resource Center, Cady, M. Coordinator. *Behavior analysis*. Author, 1978.

Behr, G., & Bachelor, B. *Identifying effective schools: A case study involving black racially isolated minority schools and instructional accomplishment information systems*. SWRL Educational Research and Development, Technical Report 72, July 1981.

Bell, T. H. *Good schools don't just happen*. National Association of Elementary School Principals, July, 1981.

Benham, B. J., Giesen, P., & Oakes, J. A study of schooling: Student's experiences in schools. *Phi Delta Kappan*, January, 1980.

Bentzen, M. M., Williams, R. C., & Heckman, P. A study of schooling: Adult experiences in school. *Phi Delta Kappan*, February, 1980.

Berliner, D. C. *The executive functions of teaching*. Paper presented at a meeting of the American Educational Research Association, New York City, March 19-23, 1982.

Bloom, B. S. *The state of research on selected alterable variables in education*. Chicago, Illinois: University of Chicago, 1980.

Bloom, B. S. Time and learning. *American Psychologist*, 1974, *29*, 682-688.

Bossert, S. T., Dwyer, D. C., Rowan, B., & Lee, G. V. *The instructional management role of the principal: A preliminary review and conceptualization*. San Francisco, California: Far West Laboratory: 1981.

Brandt, R. S. Effective schools, effective teaching. *Educational Leadership*. Association for Supervision and Curriculum, 1979.

Brookover, W., Schweitzer, J., Schneider, J., Beady, C., Flood, P., & Wisenbaker, J. Elementary school social climate and school achievement. *American Educational Research Journal*, 1978, *15*, No. 2, 301-318.

Brookover, W. B., Beamer, L., Efthim, H., Hathaway, D., Lezotte, L., Miller, S., Passalacqua, J. & Tornatzky, L. *Creating effective schools: An in-service program for enhancing school learning climate and achievement*. Holmes Beach, Florida: Learning Publications, Inc., 1982.

Brophy, J. Classroom organization and management. Paper presented at a conference on the implications of research on teaching practice. National Institute of Education, Warrenton, Virginia, February 25-27, 1982.

Cohen, M. Effective schools research: Towards useful interpretations. Paper presented at the summer instructional leadership conference of the American Association of School Administrators, 1981.

Colorado Department of Education, Frazier, C. M. Indicators of quality schools. Author, 1982.

Cooper, H. M. Pygmalion grows up: A model for teacher expectation communication and performance influence. Review of Educational Research, 1979, 49, No. 3, 389-410.

Cuban, L. Effective schools: A friendly but cautionary note. Phi Delta Kappan, June, 1983, 695-696.

Deal, T. E., and Celotti, L. D. How much influence do (and can) educational administrators have on classrooms? Phi Delta Kappan, March, 1980, 471-473.

Denham, C. and Lieberman, A. (Co-editors) Time to learn. The National Institute of Education/U.S. Government Printing Office, 1980.

Ebel, R. L. Three radical proposals for strengthening education, Phi Delta Kappan, February, 1982, 375-380.

Edmonds R. Programs of school improvement: A 1982 overview. Paper presented at a National Institute of Education conference on The Implications of Research for Practice. Airlie House, Virginia, February 1982.

Educational Research Service. Coleman report on public and private schools: The draft summary and eight critiques. School Research Forum, Arlington, Virginia: Author, 1981.

Effective schools research: Implications for leadership.[1]

Eubanks, E., and Levine, D. A first look at effective school projects in New York City and Milwakee. Phi Delta Kappan, June, 1983, 697-702.

Farwest Laboratory, Research and Development. Research on effective schools: A cautionary note.[1]

Fauske, J. P. Critique of: Papers on implications of effective schools research on educational leadership. Unpublished doctoral paper, Salt Lake City, Utah: University of Utah, 1982.

Fauske, J. P. The nature of administrative influence in schools.[1]

---

[1] Complete citation not available for this reference.

Flakus-Mosqueda, P. Responding to change: Goals for state public education. ECS Issuegram, No. 29, Denver, Colorado: Education Commission of the States, March 1, 1983.

Fredericksen, J., & Edmonds, R. Identification of instructionally effective and ineffective schools. Cambridge, Mass: Harvard University.

Goodlad, J. I. An agenda for improving our schools, The Executive Review, 2, No. 8. Institute for School Executives, Iowa City, Iowa: The University of Iowa, May 1982.

Goodlad, J. I., Sirotnik, K. S., & Overman, B. C. An overview of "A study of schooling". Phi Delta Kappan, November, 1979.

Hallinger, P. Review of the school effectiveness research. Unpublished doctoral paper, Palo Alto, California: Stanford University, 1981.

Hanson, R., Behr, G., Meguro, B. & Bailey, J. Development and verification of instructionally sensitive achievement tests. SWRL Educational Research and Development, Technical Report 69, December 15, 1980.

Hart, A. W. Critique of doctoral study in educational administration: Nurturing a renaissance? Unpublished doctoral paper, Salt Lake City, Utah: University of Utah, 1983.

Howell, B. Profile of the principalship. Educational Leadership, January, 1981, 333-336.

Hutchins, C. L. Quality schools: A review of the research on effective schools and effective teaching. Kansas City, Missouri: Mid-continent Regional Educational Laboratory, 1983.

Kash, M. & Borich, G. "Teachers" in Improving educational standards and productivity. H. J. Walberg (Ed.) McCutchan Publishing Corp., 1982.

Keeley, E. A. Auditing school climate. Educational Leadership, December, 1981, 180-183.

Klein, M. F., Tye, K. A., & Wright, J. E. A study of schooling: Curriculum. Phi Delta Kappan, December, 1979.

Los Angeles Unified School District. Curriculum alignment activities.[1]

Mackenzie, D. E. Research for school improvement: An appraisal of some recent trends. Education Researcher, April, 1983, 5-16.

McCleary, L. E. Toward a reconstruction of the principalship, The Executive Review, 1981, 2, Number 3, Iowa City, Iowa: Institute for School Executives, The University of Iowa, December, 1981.

Medley, D. M. Teacher competence and teacher effectiveness: A review of process-product research. Washington, D. C.: American Association of Colleges for Teacher Education, August, 1977.

Miles, M., Farrar, E., & Neufeld, B. Review of effective schools programs: The extent of adoption of effective schools programs. (Vol. II) Cambridge, Mass: Huron Institute, 1983.

Milazzo, P. Equating instructional accomplishment inventories and standardized achievement tests. SWRL Educational Research and Development, Technical Report 77, April 12, 1982.

Milazzo, P., Buchanan, A., Escoe, A., & Schutz, R. Method for analyzing district level IAI data bases to identify learning opportunity risks. SWRL Educational Research and Development, Technical Report 73, November 10, 1981.

Milazzo, P., Buchanan, A., and Schutz, R. Methodology for analysis of IAI district level data bases. SWRL Educational Research and Development, Technical Report 70, April 6, 1981.

Morgan, A. W. Implications for leadership in the field: Uses of effective school movement.[1]

Niedermeyer, F. C. Curriculum alignment--a way to make schooling more understandable. SWRL Educational Research and Development, Professional Paper 41, August 6, 1979.

Odden, A. State programs of school improvement, ECS Issuegram, No. 1, Denver Colorado: Education Commission of the States, January, 1983.

Odden, A. Research findings on effective teaching and schools, ECS Issuegram, No. 11, Denver, Colorado: Education Commission of the States, January, 1983.

Ogawa, R. T. The implications of organization theory: Some notes on incomplete thoughts.[1]

Ornstein, A., & Levine, D. Teacher behavior research: Overview and outlook, Phi Delta Kappan, April, 1981, 592-595.

Paddit, S. Proficiency verification systems coordinator's manual. SWRL Educational Research and Development.

Purkey, S. C., & Smith, M. S. Effective schools review. The Elementary School Journal, 83, No. 4, 1983, 427-452.

Ralph, J. H., & Fennessey, J. Science or reform: Some questions about the effective schools model. Phi Delta Kappan, June, 1983, 689-694.

Reneau, G., & Milazzo, P. Using the results of IAI data base analyses to generate educational program architecture. SWRL Educational Research and Development, Technical Report 74, January, 1982.

Rosenshine, B., & Stevens, R. Advances in research on teaching. Exceptional Education Quarterly, University of Illinois, 1981, 2, 1-10.

Rosenshine, B. Teaching functions in instructional programs. *The Elementary School Journal*, *83*, No. 4, 1983, 335-351.

Rosswork, S. Goal setting: The effects on an academic task with varying magnitudes of incentive. *Journal of Education Psychology*, 1977, *69*, No. 6, 710-715.

Rowan, B., Bossert, S. T., & Dwyer, D. C. *Research on effective schools: A cautionary note*. San Francisco, California: Far West Laboratory, 1982.

Rutter, M., Maughan, B., Mortimore, P., Ouston, J., & Smith, A. *Fifteen-thousand hours: Secondary schools and their effects on children*. Cambridge, MA., Harvard University Press, 1979.

Sewall, G. T. Against anomie and amnesia: What basic education means in the eighties. *Phi Delta Kappan*, May 1982, 603-606.

Shavelson, R. J. Review of research on teachers' pedagogical judgements, plans and decisions. Based on article by Shavelson, R. J., and Stearn, P. Research on teachers; pedagogical thoughts, judgements, decisions, and behavior. *Review of Educational Research*, 1981, *51*, 455-498.

Shoemaker, J. and Fraser, H. W. What principals can do: Some implications from studies of effective schooling. *Phi Delta Kappan*, November, 1981, 178-182.

Smith, R. Effective schooling practices. Research References, Northwest Regional Educational Laboratory, January, 1983.

Stallings, J. Allocated academic learning time revisited, or beyond time on task, *Educational Researcher*, December, 1980, 11-16.

Tikunoff, W. J., Bossert, S., Devaney, K., and Fisher, C. Toward a research and development agenda for successful schooling practices. *Journal of Education for Teaching*, 1981, *7*, No. 2, 97-125.

Tikunoff, W. J. What do we know about effective schools and how can we apply this to achieving successful secondary schools? (Excerpted from an address given by Tikunoff, W. J., and Ward, B., at a meeting of the AERA) San Francisco, California, Farwest Laboratory for Educational Research and Development.

Tikunoff, W. J., Bossert, S. T., & Mergendoller, J. R. Analyzing how classroom work activities are organized. *Ecological Perspectives for Successful Schooling Practice*. San Francisco, California: Far West Laboratory for Educational Research and Development.

Tyack, D., and Hansot, E. Hard times, hard choices: The case for coherence in public school leadership, *Phi Delta Kappan*, April, 1982, 511-515.

Walker, H., & Hops, H. Increasing academic achievement by reinforcing direct academic performance and/or facilitative nonacademic responses, *Journal of Educational Psychology*, 1976, *68*, No. 2, 218-225.

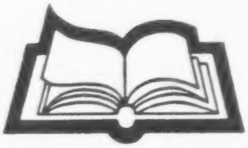
Ward, B. A. An expanded view of the student outcomes that are built or restrained by teacher processes and structures. San Francisco, CA: Far West Lab for Educational Research and Development.

Ward, B. A., & Tikunoff, W. J. Research on teaching. (Benchmark conference) San Francisco, CA: Far West Lab for Educational Research and Development.

Weber, W. A., Roff, A. L., Crawford, J., & Robinson, C. Classroom management: Review of the teacher education and research literature. Princeton, NJ: Educational Testing Service, 1983.

Weeks, A. E. Characteristics of educationally effective schools. Unpublished doctoral paper, Salt Lake City, Utah: University of Utah, Center for Educational Practice, March 1981.

Wynne, E. Looking at good schools. Phi Delta Kappan, January, 1981, 377-381.



APPENDIX A.

INDICATORS OF QUALITY SCHOOLS

COLORADO DEPARTMENT OF EDUCATION, MAY 1982

INDICATORS OF QUALITY SCHOOLS

I. OVERVIEW

COLORADO DEPARTMENT OF EDUCATION
School Improvement and Leadership Services Unit

May, 1982

Calvin M. Frazier, Commissioner of Education
201 E. Colfax Avenue
Denver, Colorado 80203

I. OVERVIEW

CONDUCTING AN ASSESSMENT OF EDUCATIONAL QUALITY IN YOUR SCHOOL

A. Why An Assessment of Quality?

The issue of quality is not new to American education. In years past, school communities measured the quality of their schools in terms of the number and character of resources, such as dollars spent per pupil and numbers of books in the instructional media center, which might be marshalled to meet the needs of burgeoning school populations. Today, however, the issues of quality focuses not only on resources but also on the need to determine what and how well students are learning.

The purpose of this document is to suggest one way of establishing a quality assessment process -- one way to start. School principals and instructional staffs undoubtedly are already doing much to assure a quality educational program within their buildings. It is important, however, that school and community together commit themselves to the ongoing task of assessing educational programs, following up with improvement activities, and making visible the results. A school should not attempt to do everything at once; rather it is important to establish priorities, develop a plan of action and move ahead in a systematic fashion.

A substantial amount of education research indicates that student achievement and satisfaction in learning is greater in those schools which exhibit certain characteristics within the school setting. Therefore, the quality of the learning environment may be measured to a considerable extent by the degree to which these characteristics are evident in the day-to-day operation of the school.

Much of this research is limited in grades studied (more at elementary) and success criteria (mostly basic skills achievement). Also the research is generalized across student populations and what most often results in effective schools. Effective learning situations for any given individual however, may be quite different from the general findings.

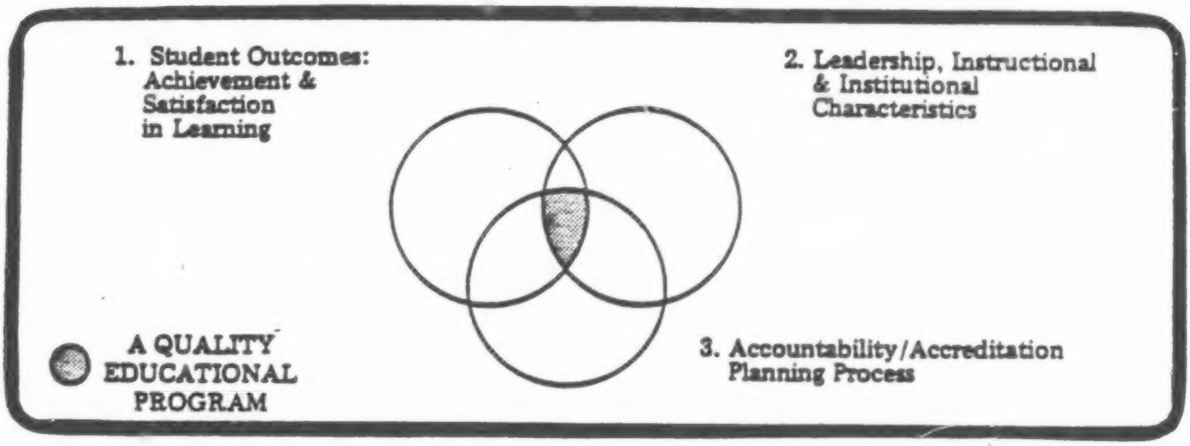
Recognizing the number and complexity of factors at work within the instructional setting, it would be presumptuous to single out any handful of descriptors as the determinants of quality within the teaching-learning environment. However, the characteristics described in the INDICATORS OF QUALITY SCHOOLS, representing as they do the results of recent research and acknowledged good practice, may provide a useful, initial contribution to your assessment efforts and are therefore, deserving of careful consideration.

B. A Three Dimensional Perspective of Educational Quality

The INDICATORS OF QUALITY SCHOOLS instrument has been organized across three distinct, yet interrelated dimensions. These dimensions are:

I. Student Outcomes: Achievement and Satisfaction in Learning
II. School Leadership, Instructional and Institutional Characteristics
III. Accountability/Accreditation/Planning Process

Figure 1


1. Student Outcomes: Achievement & Satisfaction in Learning
2. Leadership, Instructional & Institutional Characteristics
3. Accountability/Accreditation Planning Process
● A QUALITY EDUCATIONAL PROGRAM

Central to this model is the belief that to achieve quality student achievement and satisfaction, each of the remaining dimensions must be strengthened. Therefore, to improve the quality of the first dimension one must improve the quality of the other two dimensions. Each of these dimensions plays a key role in the attainment of a quality educational program. Within each may be identified a number of elements important to an educational assessment. Although each of these dimensions is described separately, it is important to remember it is the interrelationship of these dimensions that produces quality education. There is a cumulative effect of quality practices such that the whole is greater than the sum of the parts.

Student Outcomes: Achievement and Satisfaction in Learning

This dimension emphasizes the primary mission of the school - to facilitate positive achievement and satisfaction in learning. Basic to this mission is the need to identify what it is students are expected to learn and whether the curriculum delivers that learning. Expectations are stated by the district as learner or student goals. While these statements typically are written on a district-wide basis to assure continuity and congruence among schools within the district, they also are equally important at the individual building level. These goals usually include such areas as academic achievement, competency for life, personal growth in satisfaction and self-concept. Within this paper these broad range goals have been called simply "achievement and satisfaction in learning". The indicators in dimension one look both at the assessment process in the school and at congruence among the curricular objectives, the instruction and the assessment of outcomes.

Leadership, Instructional and Institutional Characteristics

This dimension emphasizes what takes place in schools in terms of the processes of instruction, administration, and leadership. Attention is focused on the teaching-learning environments and those characteristics that research indicates are positively related to student achievement and satisfaction. These characteristics should not be considered as an exhaustive listing.

Accountability/Accreditation/Planning Process

Each of the previous dimensions is critically dependent upon the effective functioning of the accreditation/accountability/planning processes both at the building and district level. Major elements to be considered within these processes are:

- Effective involvement of parents and community in education;
- A communications network responsive to the concerns and interests of the school's several publics;
- Ongoing assessment of student needs;
- Priority-setting and action-planning to meet identified needs;
- Managing and evaluating the improvement effort.

C. A Description of the Instrument

The INDICATORS OF QUALITY SCHOOLS instrument is divided into twelve categories (Figure 2): Each category consists of a series of items based on educational research on effective school practices. A complete listing of items can be found in Appendix A of this Overview. Each of the items has listed below it a number of sub-items which help delineate the item under consideration. A sample page from the instrument showing this format may be seen in Appendix B.

As mentioned above, this is not intended as encompassing all known effective school characteristics. An assessment of a school, based on this listing, will however, point up significant school strengths and further pinpoint areas where efforts at improvement could lead to strengthening the quality of the educational program. Note that the focus of this instrument is not on the status of the quality of a school's program relative to some standard but on identifying areas for improvement within an individual school.

Figure 2

OUTLINE OF CATEGORIES

I. Student Outcomes

  1. Curricular Congruence
  2. Assessment

II. School Leadership

  3. Leadership of the Principal
  4. High Expectations
  5. School-wide Norms, Values, Practices and Policies
  6. School Climate Factors
  7. Monitoring and Feedback of Student Progress
  8. Time on Task
  9. Organization and Management of the Instructional Setting
  10. Instructional Effectiveness

III. Accountability/Accreditation/Planning Process

  11. Parent and Community Involvement
  12. Accountability/Accreditation/Planning Process

D. Following Through on the Assessment Process

In considering ways to make the assessment process more meaningful, it is important to establish school-community ownership both for the descriptors of educational quality and for the school improvement process itself. Assessment procedures should be regarded as part of an ongoing process rather than as an "infrequent" occurrence.

Effective schools do not simply "happen"; they are the result of thoughtful planning. Those involved in decisions that are reached must also take ownership for the products resulting from those decisions. Quality student outcomes along with quality leadership and instruction are significant products that come from the use of a well-defined accountability/accreditation/planning process.

The following activities may be useful in carrying out the improvement process once the assessment is completed and appropriate information collected and analyzed.

- IDENTIFY school level priorities for improving the quality of your educational program and select those which are most important. The remaining priorities will need to be dealt with at a future time.
- ORGANIZE and support staff task forces to develop an ACTION PLAN to achieve each priority. Allow staff members to determine whether they wish to work on a task force, and encourage them to select the priority (or priorities) they wish to work toward. Students and community persons should be involved on these task forces as appropriate.
- REPORT back to the school and community what the priorities are, the plan for improvement, and progress in carrying out the improvement activities.

APPENDIX A

LISTING OF ITEMS FROM INDICATORS OF QUALITY SCHOOLS

1. CURRICULAR CONGRUENCE

1. LEANER OBJECTIVES EXIST WHICH ARE CLEAR, VALID, AND SEQUENCED.

2. THERE IS A MATCH BETWEEN THE WRITTEN CURRICULUM AND ASSESSMENT, i.e., THE TESTS REFLECT THE CURRICULUM.

3. THERE IS A MATCH BETWEEN INSTRUCTION AND THE WRITTEN CURRICULUM.

2. ASSESSMENT

4. THE SCHOOL (OR DISTRICT) HAS ESTABLISHED EVALUATION AND ASSESSMENT PURPOSES AND PRIORITIES.

5. A VARIETY OF MEASURES OR INDICATORS ARE USED WHICH ARE APPROPRIATE FOR THE OBJECTIVES.

6. STUDENT OUTCOME RESULTS AND OTHER EVALUATIONS ARE REPORTED TO APPROPRIATE PUBLICS AND INDIVIDUALS, AND THE RESULTS USED TO MAKE DECISIONS FOR PROGRAM IMPROVEMENT.

3. LEADERSHIP OF THE PRINCIPAL

7. THE PRINCIPAL MAINTAINS AN ONGOING, EFFECTIVE STAFF DEVELOPMENT PROGRAM, AWARE THAT THE STAFF REGULARLY NEEDS NEW SKILLS AND KNOWLEDGE IN ORDER TO ACHIEVE AND MAINTAIN EXCELLENCE IN THE EDUCATIONAL PROGRAM.

8. THE PRINCIPAL SUPPORTS AND ENCOURAGES THE STAFF, IS SEEN AS AN AGENT OF CHANGE i.e., IMPROVEMENT AND AS A STRONG EDUCATIONAL LEADER.

9. THE PRINCIPAL IS SEEN AS A PERSON WHO INVOLVES THE STAFF AND STUDENTS IN REACHING DECISIONS.

10. THE PRINCIPAL KNOWS WHAT THE COMMUNITY EXPECTS OF THE SCHOOL, AND ACTIVELY SEEKS PARENTAL INVOLVEMENT IN THEIR STUDENTS' EDUCATION.

11. THE PRINCIPAL SETS HIGH BUT REALISTIC STANDARDS FOR PERFORMANCE AND LETS THE STAFF, STUDENTS AND PARENTS KNOW WHAT THESE STANDARDS ARE.

4. HIGH EXPECTATIONS

12. THIS SCHOOL HAS HIGH EXPECTATIONS OF ACHIEVEMENT FOR ALL STUDENTS.

13. TEACHERS GIVE REWARDS, PRAISE AND RECOGNITION TO STUDENTS FOR THEIR PERFORMANCE.

5. SCHOOL-WIDE NORMS, VALUES, PRACTICES AND POLICIES

14. VALUES AND NORMS ARE CONSISTENT THROUGHOUT THE SCHOOL AND ARE ACCEPTED BY STAFF AND STUDENTS.

15. SCHOOL POLICIES WHICH AFFECT STUDENT ACHIEVEMENT GAINS ARE CLEAR AND HAVE STUDENT AND STAFF SUPPORT.

6. SCHOOL CLIMATE FACTORS

16. RESPECT.

17. TRUST.

18. HIGH MORALE.

19. COHESIVENESS.

20. CARING.

21. CONDITIONS IN THIS SCHOOL SUPPORT A PLEASANT AND COMFORTABLE CLIMATE FOR STUDENTS.

22. SPECIFIC SYMPTOMS OR INDICATORS OF POSITIVE CLIMATE ARE GENERALLY HIGH.

7. MONITORING AND FEEDBACK OF STUDENT PROGRESS

23. THE SCHOOL HAS AN EVALUATION PROGRAM THAT MONITORS AND REPORTS STUDENT PROGRESS.

24. EACH STUDENT IS MONITORED FREQUENTLY AND RECEIVES INFORMATION REGARDING HIS/HER PERFORMANCE.

25. TEACHERS, PRINCIPALS AND PARENTS ARE KEPT AWARE OF PUPIL PROGRESS RELATIVE TO OBJECTIVES.

8. TIME ON TASK

26. THE AMOUNTS OF TIME ALL STUDENTS SPEND ENGAGED OR ON TASK IS HIGH (MINIMUM OF 70% OF THE INSTRUCTIONAL PERIOD).

27. ADMINISTRATORS, TEACHERS, AND SUPPORT STAFF ENFORCE A POLICY THAT NO ONE DISTURBS A TEACHER DURING INSTRUCTION.

9. ORGANIZATION AND MANAGEMENT OF THE INSTRUCTIONAL SETTING

28. TEACHERS BEGIN THE SCHOOL YEAR EFFECTIVELY BY SETTING THE STAGE FOR LEARNING.

29. THE ORGANIZATION OF THE INSTRUCTIONAL SETTING IS SUCH THAT ALL STUDENTS HAVE AN OPPORTUNITY FOR SUCCESS.

30. TEACHERS PREPARE STUDENTS FOR INDEPENDENT INQUIRY AND STUDY.

31. THERE IS WIDESPREAD SUPPORT FROM THE SCHOOL STAFF, PARENTS AND STUDENTS REGARDING THE SCHOOL'S NORMS FOR STUDENT BEHAVIOR.

32. TEACHERS HAVE AND USE A VARIETY OF DISCIPLINE STRATEGIES FOR MANAGING DISRUPTIVE STUDENTS.

10. INSTRUCTIONAL EFFECTIVENESS

33. TEACHERS CREATE AN ENVIRONMENT THAT MODELS HIGH LEARNING EXPECTATIONS.

34. TEACHERS CHOOSE INSTRUCTIONAL ACTIVITIES THAT PROVIDE GREATER AMOUNTS OF TIME FOR STUDENT-TEACHER INTERACTION.

35. TEACHERS USE APPROPRIATE DISCUSSION TECHNIQUES TO PROMOTE HIGH SUCCESS AND ACHIEVEMENT LEVELS FOR ALL STUDENTS.

11. PARENT AND COMMUNITY INVOLVEMENT

36. PARENTS OF OUR STUDENTS WORK WITH THEM AT HOME IN SUPPORT OF THE SCHOOL'S PROGRAM.

37. THERE IS A STRONG PROGRAM OF PARENT-SUPPORT AND PARTICIPATION IN THE SCHOOL.

38. THE COMMUNITY AS A WHOLE INCLUDING BUSINESS, OTHER INSTITUTIONS AND CITIZENS WITHOUT CHILDREN IN THE SCHOOL IS INVOLVED IN SUPPORTING THE SCHOOL.

12. ACCOUNTABILITY, ACCREDITATION/PLANNING PROCESS

39. THE SCHOOL AND DISTRICT HAVE ASSESSED THEIR NEEDS AND STRENGTHS AND IDENTIFIED PRIORITIES FOR SCHOOL IMPROVEMENT.

40. PLANS HAVE BEEN DEVELOPED FOR EACH IMPROVEMENT PRIORITY.

41. IMPROVEMENT PROGRAMS AND INSTRUCTIONAL PROGRAMS ARE IMPLEMENTED, EVALUATED AND MODIFIED.

42. EFFECTIVE COMMUNICATIONS EXIST TO REPORT STUDENT OUTCOMES AND IMPROVEMENT EFFORTS TO THE STAFF AND PUBLIC.

Colorado Department of Education
School Improvement and Leadership
Services Unit
May, 1982

INDICATORS OF QUALITY SCHOOLS

9. ORGANIZATION AND MANAGEMENT OF THE INSTRUCTIONAL SETTING

The managerial skills of teachers relate positively to student effectiveness. Such skills include teacher behaviors that lead to high level student involvement in learning activities, that minimize disruptive student behavior, and that make efficient use of academic learning time. While such skills are not sufficient for instructional effectiveness they are fundamental and necessary for student progress in the basic skills.

WHAT IS

The extent to which this practice/condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

WHAT IS — IMPACT POTENTIAL

___ 1. TEACHERS BEGIN THE YEAR EFFECTIVELY BY SETTING THE STAGE FOR LEARNING. 1.___

___ a. Teachers are in charge of the instructional setting from the moment the first students arrive. ___

___ b. Teachers systematically explain the rules, have them modeled, give standards for acceptable behavior, give students an opportunity to practice the desired behavior, and indicate the consequences of not following the rules. ___

___ c. Teachers introduce the students to all of the major instructional arrangements to be used during the year; e.g., grouping arrangements, types of tests to be used, how the books are organized, homework procedures, etc. ___

___ d. A system of student responsibility and accountability for work is established on the first day. This system is perceived by students as fair and clear. ___

___ e. Teachers continuously monitor students and follow through with consequences for those who do not comply with rules and procedures. ___

___ f. Other evidence:______________________________________ ___

____

APPENDIX C

INDICATORS OF QUALITY SCHOOLS

2. ASSESSMENT

To be accountable means that educational goals and learner outcomes are developed, programs carried out, and results reported. Assessment of programs and outcomes is essential for school improvement.

WHAT IS

The extent to which this practice/condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

WHAT IS | IMPACT POTENTIAL

___ 1. THE SCHOOL (OR DISTRICT) HAS ESTABLISHED EVALUATION AND ASSESSMENT PURPOSES AND PRIORITIES. 1.___

___ a. There is a written statement of evaluation purposes. ___

___ b. Purposes of assessment and evaluation in school include consideration of student outcome assessment, program evaluation and evaluation of progress on the school improvement priorities. ___

___ c. There is a schedule for testing. ___

___ d. Other evidence:______________________________ ___

____

___ 2. A VARIETY OF MEASURES OR INDICATORS ARE USED WHICH ARE APPROPRIATE FOR THE OBJECTIVES. 2.___

___ a. Tests are used which allow comparison on at least some items with national performance. ___

___ b. Criterion tests based on the school's learner objectives are used to assess student performance. ___

___ c. Test scores are compared with expected scores appropriate to the students. ___

___ d. Assessment data allows the school to report change over time. ___

___ e. Information on instructional effectiveness is obtained from students after they leave school as graduates or dropouts. ___

___ f. Feedback is obtained from the public, parents, colleges, and employees on the quality of students' and graduates' job performance. ___

___ g. Achievement is assessed in a variety of ways, e.g., tests, teacher logs, competency standards, performance reports. ___

___ h. Affective objectives are assessed in various ways, e.g., through attitude scales, self-concept measures, discipline reports and observed pupil behaviors. ___

___ i. Other evidence:______________________________ ___

____

APPENDIX D

INDICATORS OF QUALITY SCHOOLS

12. ACCOUNTABILITY/ACCREDITATION/ PLANNING PROCESS

Effective schools do not simply "happen". Effective schools are the result of thoughtful planning by those who are most directly involved in decisions that are reached and who take ownership for the products resulting from the planning process. Quality student outcomes, quality leadership and effective instructional practices are significant products coming from the use of a well-defined accountability/ accreditation/planning process.

WHAT IS

The extent to which this practice/ condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis.

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

WHAT IS — IMPACT POTENTIAL

____1. THE SCHOOL AND DISTRICT HAVE ASSESSED THEIR NEEDS AND STRENGTHS AND IDENTIFIED PRIORITIES FOR SCHOOL IMPROVEMENT. 1.____

___ a. A plan for assessing community and school feelings on program strengths and needs exists and is used at the district level. ___
___ b. A plan for assessing community and school feelings on program strengths and needs exists and is used when appropriate at the individual school level. ___
___ c. Assessment information is used by the school to set improvement priorities. ___
___ d. Priority setting occurs at both the district and individual school level. ___
___ e. Individual school priorities are used by the Board to help set district priorities. ___
___ f. Other evidence:____ ___
____

____2. PLANS HAVE BEEN DEVELOPED FOR EACH IMPROVEMENT PRIORITY. 2.____

___ a. The district has a written action plan for program improvement based on priorities. ___
___ b. The school has written plans for program improvement based on the district's and school's priorities. ___
___ c. The school's action plan identifies anticipated results in program improvement as they are implemented. ___
___ d. A linkage of priorities exists between the individual school's and the district's plans. ___
___ e. Other evidence:____ ___
____

INDICATORS OF QUALITY SCHOOLS

EFFECTIVE PRACTICES CATEGORIES

Colorado Department of Education
May, 1982

CDE	BROPHY	MCREL	C BASIC ED.	EDMONDS	ECS	AUSTIN	BLOOM	RUTTER	GOODLAD	BTES
Assessment		Evaluative Progress	Assessment							Clear Objectives
Leadership			Leadership	Leadership	Principal Leadership	Principal Leadership		Teacher Modeling	Leadership	
Expectations	Expectations	Expectations	Expectations	Expectations	Expectations	Expectations				
Norms & Policies		Norms & Policies	Academic Emphasis	Instructional Emphasis	Focus on Basics	Clear Obj., Instr. Emph.		Academic Emphasis	Mission & Identity in School	Clear Objectives
Climate	Supportive Environment	Motivation	Orderliness	Climate/ Appearance	Climate			Pupil conditions/Rewards,prai		Rewards
		Classroom				Grouping				Grouping (ALT)
Monitoring	Success Mastery			Monitoring	Monitoring Assessment & Mastery		Formative Testing (Prescription)			Feedback
Time	Opportunity to Learn	Time Allocation			Time	Time	Engaged Time			Time on Task
Class Org. & Mgmt.	Class Management	Discipline				Control of Classes		Class Management		Exec. role for Teachers/ Management
Instruc. Effectvness	Direct Inst. Active Tchg.	Instruc. Effectvness			Effective Strategies	Direct Instruction		Responsibility		Direct Instruction (time)
Curric. Congruence								Staff Org.	Structure (dist.) is supportive	
Planning		Building Support		Improvement Focus	Bldg. focus for improv.	Bldg. based Staff Develop	Focus on Improving Teaching		Autonomy of school	
Parent Involvement		Parent Involv.	Parent Support		Parent Particip.	Parent Involvement	Parent Involvement			Parent Involvement (time)
		Teacher Proffessionalism			Class Size					
					Preschool Experience		Cognitive Entry Skills			

INDICATORS OF QUALITY SCHOOLS

Developed by the Colorado Department of Education
School Improvement and Leadership Services Unit
May, 1982

Background

This instrument is a series of checklists of school-wide practices or conditions found in schools known to have an effective instructional program. The INDICATORS OF QUALITY SCHOOLS is designed to assist a school in identifying areas of strength and areas where efforts could lead to significant improvement in the quality of the school.

Directions

Read through each item and its sub-items. The sub-items are effective practices, taken from literature, which delineate the item under consideration. The same rating scale is applied throughout, but ONLY numbered items are used in determining AVERAGE SCORE.

The instrument rating scale is 0 to 3.

a. WHAT IS - the extent to which this practice/condition is present in your school.

b. IMPACT POTENTIAL - the extent to which human and/or material resources invested in the implementation of this practice/condition, is positively impacting or could positively impact the effectiveness of your school.

Note: This scale is different from a "What ought to be" response in that it emphasizes not only what you value but what you believe would have, if implemented, the greatest impact on school improvement.

Leave blank any item or sub-item, you cannot respond to or which does not apply to your school. If you feel you do not know whether a practice/condition exists in the school beyond your own classroom, answer the best you can or leave it blank.

General Data:

I am a(n) ___ 1) Teacher, Counselor or Specialist
___ 2) Administrator
___ 3) Student
___ 4) Parent
___ 5) Other

This school is ___ 1) Elementary
___ 2) Middle/JHS
___ 3) Senior High
___ 4) K-12
___ 5) Other

INDICATORS OF QUALITY SCHOOLS

1. CURRICULAR CONGRUENCE

To manage a curriculum well means effecting a "match" between (1) what the teacher does teach, (2) what the teacher should teach, and (3) what students actually learn. Good quality control enables a school district, school, or teacher to narrow the gap between desired and actual pupil learning.

WHAT IS

The extent to which this practice/condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

List below the subject level or grade levels you are considering as you rate the following: ____________________

WHAT IS		IMPACT POTENTIAL
____	1. LEARNER OBJECTIVES EXIST WHICH ARE CLEAR, VALID, AND SEQUENCED.	1. ____
___	a. There is a written document which clearly defines specific objectives that students are expected to accomplish.	___
___	b. The specific objectives indicate standards of acceptable performance.	___
___	c. Teachers, students, and parents are given opportunities to provide input into the curriculum development process.	___
___	d. Relevant knowledge, skills, and attitudes are sequenced and specified.	___
___	e. A written curriculum development plan exists which indicates specific time lines for evaluation and revision of the curriculum.	___
___	f. Other evidence: ____________________ ____________________	___
____	2. THERE IS A MATCH BETWEEN THE WRITTEN CURRICULUM AND ASSESSMENT, i.e., THE TESTS REFLECT THE CURRICULUM.	2. ____
___	a. Tests give administrators and teachers clear information about student achievement related to objectives.	___
___	b. Tests have been analyzed and selected to match the school's objectives.	___
___	c. Test items are identified which do not match curriculum objectives.	___
___	d. Curriculum objectives not included in tests are assessed by some other means.	___
___	e Other evidence: ____________________ ____________________	___

CURRICULAR CONGRUENCE (Cont.)

WHAT IS

IMPACT POTENTIAL

___3. THERE IS A MATCH BETWEEN INSTRUCTION AND THE WRITTEN CURRICULUM. 3.___

- ___ a. The curriculum document is easy for teachers to use in day day planning for instruction. ___
- ___ b. Textbooks and other materials reflect the objectives of the school. ___
- ___ c. Topics actually used in instruction have been linked (mapped) to the written curriculum and objectives. ___
- ___ d. The curriculum documents are actually used and the objectives taught in day-to-day instruction. ___
- ___ e. Other evidence:______________________________________ ___

____

____Average score for Curricular Congruence____

Colorado Department of Education
May, 1982

INDICATORS OF QUALITY SCHOOLS

2. ASSESSMENT

To be accountable means that educational goals and learner outcomes are developed, programs carried out, and results reported. Assessment of programs and outcomes is essential for school improvement.

WHAT IS

The extent to which this practice/condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

WHAT IS — IMPACT POTENTIAL

___ 1. THE SCHOOL (OR DISTRICT) HAS ESTABLISHED EVALUATION AND ASSESSMENT PURPOSES AND PRIORITIES. 1. ___

___ a. There is a written statement of evaluation purposes. ___
___ b. Purposes of assessment and evaluation in school include consideration of student outcome assessment, program evaluation and evaluation of progress on the school improvement priorities. ___
___ c. There is a schedule for testing. ___
___ d. Other evidence: ______________________________ ___
____

___ 2. A VARIETY OF MEASURES OR INDICATORS ARE USED WHICH ARE APPROPRIATE FOR THE OBJECTIVES. 2. ___

___ a. Tests are used which allow comparison on at least some items with national performance. ___
___ b. Criterion tests based on the school's learner objectives are used to assess student performance. ___
___ c. Test scores are compared with expected scores appropriate to the students. ___
___ d. Assessment data allows the school to report change over time. ___
___ e. Information on instructional effectiveness is obtained from students after they leave school as graduates or dropouts. ___
___ f. Feedback is obtained from the public, parents, colleges, and employees on the quality of students' and graduates' job performance. ___
___ g. Achievement is assessed in a variety of ways, e.g., tests, teacher logs, competency standards, performance reports. ___
___ h. Affective objectives are assessed in various ways, e.g., through attitude scales, self-concept measures, discipline reports and observed pupil behaviors. ___
___ i. Other evidence: ______________________________ ___
____

WHAT IS IMPACT POTENTIAL

____3. STUDENT OUTCOME RESULTS AND OTHER EVALUATIONS ARE REPORTED TO APPROPRIATE PUBLICS AND INDIVIDUALS, AND THE RESULTS USED TO MAKE DECISIONS FOR PROGRAM IMPROVEMENT. 3.____

___ a. The teaching staff receives evaluation results. ___

___ b. The principal or central staff works with school staff to interpret evaluations and apply results for individual student and program effectiveness. ___

___ c. Specific program changes, i.e., adjustments, improvements or terminations, have been made based on student and/or program evaluations. ___

___ d Student outcome results for the school or district are reported to parents, the school board,and the general public. ___

___ e. Curriculum improvement priorities have been set, based in part on assessment results. ___

___ f. Other evidence:____ ___

____

_____Average score for Assessment_____

INDICATORS OF QUALITY SCHOOLS

3. LEADERSHIP OF THE PRINCIPAL

Research in student achievement and school climate has consistently shown the principal to be a significant factor in effecting positive changes at the building level. The principal sets the tone for all improvement efforts and provides positive reinforcement for improvement activities of both staff and students. Conversely, in the absence of effective leadership practices on the part of the principal, school improvement efforts tend to be fragmented, lacking clarity of purpose or continuity. The principal is instrumental in establishing a climate within the school which is supportive of new and relevant ideas and encourages collaborative inquiry on the part of the staff and students.

WHAT IS

The extent to which this practice/condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

WHAT IS | IMPACT POTENTIAL

____1. THE PRINCIPAL MAINTAINS AN ONGOING, EFFECTIVE STAFF DEVELOPMENT PROGRAM, AWARE THAT THE STAFF REGULARLY NEEDS NEW SKILLS AND KNOWLEDGE IN ORDER TO ACHIEVE AND MAINTAIN EXCELLENCE IN THE EDUCATIONAL PROGRAM. 1.____

___ a. The principal plans for appropriate inservice training. ___
___ b. The principal uses the results of program evaluation to help the staff improve its teaching. ___
___ c. The principal engages in research with the staff to improve teaching practice. ___
___ d. The leadership of the principal stimulates quality teaching. ___
___ e. Other evidence:____ ___
____

____2. THE PRINCIPAL SUPPORTS AND ENCOURAGES THE STAFF, IS SEEN AS AN AGENT OF CHANGE, i.e., IMPROVEMENT, AND AS A STRONG EDUCATIONAL LEADER. 2.____

___ a. The principal recognizes the collegial nature of teaching and supports cooperative teaching efforts. ___
___ b. The principal encourages teachers to try out new ideas. ___
___ c. The principal arranges release time, financial support, and inservice training for teachers willing to enter into creative teaching activities. ___
___ d. The principal is accessible and responsive to teachers. ___
___ e. The principal maintains open lines of communication with the staff and the public. ___
___ f. Other evidence:____ ___
____

WHAT IS | IMPACT POTENTIAL

___3. THE PRINCIPAL IS SEEN AS A PERSON WHO INVOLVES THE STAFF AND STUDENTS IN REACHING DECISIONS. 3.___

___ a. Curriculum outcomes for each grade level and course are agreed to and supported by the principal and staff. ___

___ b. Rules and discipline codes for the building have been developed by and are supported by the principal, staff, and students. ___

___ c. School improvement priorities and plans have been developed cooperatively by the principal, staff, and students. ___

___ d. Other evidence:_______________________________________ ___

____

___4. THE PRINCIPAL KNOWS WHAT THE COMMUNITY EXPECTS OF THE SCHOOL, AND ACTIVELY SEEKS PARENTAL INVOLVEMENT IN THEIR STUDENTS' EDUCATION. 4.___

___ a. The principal encourages parent involvement through accountability/advisory groups. ___

___ b. The principal has a comprehensive sense of the school's direction as it relates to the district and to the school's community. ___

___ c. The principal embodies to the community a positive view of the school and its program, staff and student body. ___

___ d. The principal works through an informed budget committee to assure program success. ___

___ e. Other evidence:_______________________________________ ___

____

___5. THE PRINCIPAL SETS HIGH BUT REALISTIC STANDARDS FOR PERFORMANCE AND LETS THE STAFF, STUDENTS AND PARENTS KNOW WHAT THESE STANDARDS ARE. 5.___

___ a. The principal takes a position on issues and is not seen as being unfairly influenced by others. ___

___ b. The principal recognizes and rewards teachers who practice well-focused instruction, interactive teaching, and effective use of instructional time. ___

___ c. Other evidence:_______________________________________ ___

____

____Average score for Leadership of the Principal____

Colorado Department of Education
May, 1982

BEST COPY AVAILABLE

INDICATORS OF QUALITY SCHOOLS

4. HIGH EXPECTATIONS

An extremely important factor contributing to student achievement is that involving the expectations of teachers for quality student performance. Teachers who hold high but realistic expectations for students' find that students perform better, stay in school longer and attend more regularly. A student's confidence in his/her ability to learn may serve as a taproot for a number of positive, growth-producing behaviors which exert a powerful influence throughout life.

WHAT IS

The extent to which this practice/condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

WHAT IS — IMPACT POTENTIAL

___ 1. THIS SCHOOL HAS HIGH EXPECTATIONS OF ACHIEVEMENT FOR ALL STUDENTS. 1.___

___ a. High learning standards are communicated to all students and parents by administrators and teachers as an important goal in this school. ___

___ b. Teachers believe the instructional effectiveness of the school determines student achievement levels far more than family background or ethnicity. ___

___ c. Teachers expect high proportions of their students to do well on tests used in the district and on SAT or ACT Tests. ___

___ d. Teachers' expectations of students include clear goals for student achievement. ___

___ e. Teachers' expectations include students being instructed in an atmosphere of confidence that they can and will succeed. ___

___ f. When a student fails at a task, information regarding the cause of failure is used to help the student succeed. ___

___ g. Other evidence:____ ___

____

HIGH EXPECTATIONS (Cont.)

WHAT IS — IMPACT POTENTIAL

____2. TEACHERS GIVE REWARDS, PRAISE AND RECOGNITION TO STUDENTS FOR THEIR PERFORMANCE. 2.____

___ a. There is ample use of rewards, praise and appreciation of all students. ___
___ b. The teaching staff takes opportunities to praise all pupils for success during instruction. ___
___ c. There are current displays of student work on bulletin boards, in halls and in learning areas. ___
___ d. Student projects are featured in school newspapers and/or newsletters. ___
___ e. Teachers treat students in ways which emphasize success and potential rather than those which focus on failures and shortcomings. ___
___ f. Low achieving students receive as much praise as high achievers. ___
___ g. The staff shares ideas for recognizing student performance. ___
___ h Other evidence:______________________________ ___
____

____Average score for High Expectations____

INDICATORS OF QUALITY SCHOOLS

5. SCHOOL-WIDE NORMS, VALUES, PRACTICES AND POLICIES

School improvement efforts that focus on student achievment recognize the relationship between effective instruction and uniform school-wide policies, practices, norms, and values. Analyzing the connection between building level policies and effective instruction is a very important relationship which is often overlooked in diagnosing instructional effectiveness. Of critical importance to school policy analysis is that many policies and practices can be changed to some degree by administrators and staff.

WHAT IS

The extent to which this practice/condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

WHAT IS		IMPACT POTENTIAL
____ 1.	VALUES AND NORMS ARE CONSISTENT THROUGHOUT THE SCHOOL AND ARE ACCEPTED BY STAFF AND STUDENTS.	1.____
___	a. Both the curriculum and the approaches to discipline are developed and supported by the staff.	___
___	b. Decisions in this school are reached through a process in which staff members feel their views are considered.	___
___	c. School achievement and discipline values and norms are accepted by the general body of students.	___
___	d. Students have input into the development and evaluation of school practices and policies.	___
___	e. Other evidence:____ ____	___

SCHOOL-WIDE NORMS, VALUES, PRACTICES AND POLICIES (Cont.)

WHAT IS | IMPACT POTENTIAL

____2. SCHOOL POLICIES WHICH AFFECT STUDENT ACHIEVEMENT GAINS ARE CLEAR AND HAVE STUDENT AND STAFF SUPPORT. 2.____

___ a. There is a stated school policy regarding absenteeism and tardiness which has penalties for non-compliance that are clear to students, parents, and staff. ___

___ b. Administrators and staff enforce the school absenteeism and tardiness policy and consistently follow-up on non-compliance. ___

___ c. There is a variable grading policy established for remedial classes based on individual progress, improvement or variable credit. ___

___ d. There is a school policy and process which allows teachers easy access to needed information about students reading problems and their reading level at the time students are assigned to classes. ___

___ e. The administrative staff convenes cross-department meetings to discuss and clarify policies regarding reading in the content areas. ___

___ f. Other evidence:____ ___

____

____Average score for School-wide Norms, Values, Practices and Policies____

INDICATORS OF QUALITY SCHOOLS

6. SCHOOL CLIMATE FACTORS

School climate may be defined as those qualities of the school, and of the people in the school, which affect people's attitudes, behaviors, and achievements. The following items have been designed to measure the extent to which selected climate factors (descriptors) and symptoms are perceived as being positive in the school.*

NOTE: The school climate category is different from the other Indicators of Quality Schools categories in that climate indicators are not practices. Instead the factors included are measures of the school's climate. If climate becomes a priority for school improvement, other assessments should be run to focus on which specific practices to improve.

WHAT IS

The extent to which this practice/condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

WHAT IS		IMPACT POTENTIAL
___	1. RESPECT.	1.___
___	a. Students are respected regardless of their achievement level.	___
___	b. Teachers treat students as persons.	___
___	c. Parents are considered by this school as important collaborators.	___
___	d. Teachers from one subject area or grade level respect those from other subject areas.	___
___	e. Other evidence ______________________________	___
___	2. TRUST.	2.___
___	a. Students feel that teachers are "on their side".	___
___	b. While we don't always agree, we can share our concerns with each other openly.	___
___	c. Our principal is a good spokesperson before the superintendent and the board for our interests and needs.	___
___	d. Students can count on teachers to listen to their side of the story and to be fair.	___
___	e. Teachers trust students to use good judgment.	___
___	f. Other evidence ______________________________	___

---

* Many of the items in this instrument were developed by Dr. Robert Fox for The CFK Ltd. School Climate Profile, published by Phi Delta Kappa's School Climate Improvement: A Challenge to the School Administrator, Bloomington, IN 1976.

BEST COPY AVAILABLE

SCHOOL CLIMATE FACTORS (Cont.)

WHAT IS IMPACT POTENTIAL

___3. HIGH MORALE. 3.___

___ a. This school makes students enthusiastic about learning. ___
___ b. Teachers feel pride in this school and in its students. ___
___ c. Teachers in this school are "out in front", seeking better ways of teaching and learning. ___
___ d. Parents, teachers, and students would rise to the defense of this school's program if it were challenged. ___
___ e. I like working in this school. ___
___ f. Other evidence______________________________ ___
____

___4. COHESIVENESS. 4.___

___ a. Students would rather attend this school than transfer to another. ___
___ b. There is a "we" spirit in this school. ___
___ c. Administration and teachers collaborate toward making the school run effectively; there is little administrator-teacher tension. ___
___ d. Differences between individuals and groups, both among faculty and students, are considered as contributing to the richness of the school, and are not seen as divisive influences. ___
___ e. New students and faculty members are made to feel welcome and part of the group. ___
___ f. Other evidence______________________________ ___
____

___5. CARING. 5.___

___ a. There is someone in this school that I can always count on. ___
___ b. The principal really cares about students. ___
___ c. People in this school care about me as a person. They are concerned about more than just how well I perform my job at school as student, teacher, parent, etc.. ___
___ d. School is a nice place because I feel wanted and needed here. ___
___ e. Most people at this school are kind. ___
___ f. Other evidence______________________________ ___
____

SCHOOL CLIMATE FACTORS (Cont.)

WHAT IS IMPACT POTENTIAL

____6. CONDITIONS IN THIS SCHOOL SUPPORT A PLEASANT AND COMFORTABLE ENVIRONMENT FOR STUDENTS. 6.____

___ a. Students in this school are willing to approach the staff for advice or help. ___
___ b. Student perceive this school as a pleasant and rewarding place in which to work. ___
___ c. Students feel that administrators and staff understand and respond to their personal needs. ___
___ d. Students in this school would say that teachers are not hostile or authoritarian towards them. ___
___ e. There are opportunities for students to take positions of responsibility in this school and to participate in the running of their school lives. ___
___ f. There is a general expectation in this school that students will take care of their own property and the property of others. ___
___ g. Other evidence____ ___
____

____7. SPECIFIC SYMPTOMS OR INDICATORS OF POSITIVE CLIMATE ARE GENERALLY HIGH. 7.____

___ a. The daily attendance rate of students is high. ___
___ b. There are few failing grades. This indicates student mastery of material. ___
___ c. Disciplinary problems leading to suspensions are few. ___
___ d. Various student groups and cliques talk with one another and work together. ___
___ e. School events such as athletic contests, musical and dramatic events, and social events are well attended by the faculty and students. ___
___ f. The school drop-out rate is low. ___
___ g. Student involvement in the school's extra-curricular activities program is high. ___
___ h. The buildings and grounds are in good repair and show evidence of upkeep. ___
___ i. Vandalism is minimal and students and staff feel safe and secure in the buildings. ___
___ j. Other evidence:____ ___
____

_____ Average score for School Climate Factors _____

INDICATORS OF QUALITY SCHOOLS

7. MONITORING AND FEEDBACK OF STUDENT PROGRESS

Prompt, on-going review and evaluation of a student's work with feedback given by the teacher is related to student engagement rate and to achievement and improves attitudes toward learning. The effective teacher will teach, then test for learning and provide extra help as appropriate until each student comes up to mastery.

WHAT IS

The extent to which this practice/condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

WHAT IS — IMPACT POTENTIAL

____ 1. THE SCHOOL HAS AN EVALUATION PROGRAM THAT MONITORS AND REPORTS STUDENT PROGRESS. 1. ____

- ___ a. Item results from national, normed tests are reported to teachers in a manner which allows them to see the test results as related to instructional objectives. ___
- ___ b. The curriculum is defined in useful units or "chunks" and the progress of students in mastering these units is reported to students and parents. ___
- ___ c. Student evaluations are based on specific achievements in ways that are clear to the student. ___
- ___ d. Achievement data is used to change and improve the curricula on a regular basis. ___
- ___ e. Other evidence: ____ ___

____ 2. EACH STUDENT IS MONITORED FREQUENTLY AND RECEIVES INFORMATION REGARDING HIS/HER PERFORMANCE. 2. ____

- ___ a. Assigned student work is promptly reviewed so teachers can give helpful feedback to students. ___
- ___ b. Frequent progress checks (formative testing) are made of each student's work, leading to modifications in assignments where this is necessary. ___
- ___ c. Teachers provide to students a variety of methods for recording progress and mastery of instructional objectives. ___
- ___ d. The proportion of instructional time during which students receive feedback on learning is high. ___
- ___ e. Teachers are responsive to students' need for help. ___
- ___ f. Other evidence: ____ ___

WHAT IS		IMPACT POTENTIAL
___3.	TEACHERS, PRINCIPALS AND PARENTS ARE KEPT AWARE OF PUPIL PROGRESS RELATIVE TO OBJECTIVES.	3.___
___	a. Parents are kept aware of learning objectives for each course.	___
___	b. Pupil progress is reported to parents at conferences, etc., using course objectives.	___
___	c. Other evidence:______________________________	___

_____Average score for Monitoring and Feedback of Student Progress_____

Colorado Department of Education
May, 1982

8. TIME ON TASK

Both the quality as well as the quantity of time on task are acknowledged to be important in improving student learning. While the research suggests, in general, that those areas of learning which provide engaged learning time will result in higher student achievement, the fact of individual student differences may suggest as well that scheduled time on task be flexible and responsive to widely varying needs of students. Appropriateness of the task itself in terms of its relationship to the student's level of intellectual development, his/her particular learning style and the learning objective(s) to be reached are elements which must be considered in assuring that optimal learning will result.

WHAT IS

The extent to which this practice/condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

DEFINITIONS OF TERMS

ENGAGED TIME OR TIME-ON-TASK is the amount of instructional time that students spend actively involved in, or attending, to learning tasks.

HIGH RATE OF SUCCESS indicates that students are achieving their learning objectives between 60-90 percent of the time.

WHAT IS — IMPACT POTENTIAL

____1. THE AMOUNTS OF TIME ALL STUDENTS SPEND ENGAGED OR ON TASK IS HIGH (A MINIMUM OF 70% OF THE INSTRUCTIONAL PERIOD). 1.____

___ a. Teachers diagnose which teaching techniques promote or detract from high rates of student engagement and success. ___

___ b. Teachers diagnose the engagement and success rates of low, middle and high achievers. ___

___ c. Teachers monitor engaged or on-task behavior during the instructional period and provide correctives where engaged and success rates are low. ___

___ d. Teachers have control of engaged or on-task time, including maximum time spent on tasks at a level at which students can perform with a high rate of success. ___

___ e. Students' scheduled time on-task is variable, based upon differences in their learning needs. ___

___ f. Students each day are engaged in learning tasks which bring success to them. ___

___ g. Other evidence:____ ___

____

WHAT IS IMPACT POTENTIAL

___2. ADMINISTRATORS, TEACHERS, AND SUPPORT STAFF ENFORCE A POLICY THAT NO ONE DISTURBS A TEACHER DURING INSTRUCTION. 2.___

___ a. Disruptive noise levels in the hall are low. ___
___ b. Attendance slips, lunch money collections and other administrative procedures are handled in an efficient, non-disruptive way. ___
___ c. Announcements are handled so as to minimize disruptions. ___
___ d. Arrangements for excusing students for special programming or counseling are handled smoothly so that unnecessary disruptions do not occur. ___
___ e. Special events are planned to fit into and enhance the total instructional program. ___
___ f. Other evidence:____ ___
____

____Average score for Time on Task____

Colorado Department of Education
May, 1982

BEST COPY AVAILABLE

9. ORGANIZATION AND MANAGEMENT OF THE INSTRUCTIONAL SETTING

The managerial skills of teachers relate positively to student effectiveness. Such skills include teacher behaviors that lead to high level student involvement in learning activities, that minimize disruptive student behavior, and that make efficient use of academic learning time. While such skills are not sufficient for instructional effectiveness they are fundamental and necessary for student progress in the basic skills.

WHAT IS

The extent to which this practice/condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

WHAT IS

IMPACT POTENTIAL

____1. TEACHERS BEGIN THE YEAR EFFECTIVELY BY SETTING THE STAGE FOR LEARNING. 1.____

___ a. Teachers are in charge of the instructional setting from the moment the first students arrive. ___

___ b. Teachers systematically explain the rules, have them modeled, give standards for acceptable behavior, give students an opportunity to practice the desired behavior, and indicate the consequences of not following the rules. ___

___ c. Teachers introduce the students to all of the major instructional arrangements to be used during the year; e.g., grouping arrangements, types of tests to be used, how the books are organized, homework procedures, etc. ___

___ d. A system of student responsibility and accountability for work is established on the first day. This system is perceived by students as fair and clear. ___

___ e. Teachers continuously monitor students and follow through with consequences for those who do not comply with rules and procedures. ___

___ f. Other evidence:____ ___

____

ORGANIZATION AND MANAGEMENT OF THE INSTRUCTIONAL SETTING (Cont.)

WHAT IS — IMPACT POTENTIAL

____2. THE ORGANIZATION OF THE INSTRUCTIONAL SETTING IS SUCH THAT ALL STUDENTS HAVE AN OPPORTUNITY FOR SUCCESS. 2.____

___ a. Varieties of learning environments are provided to meet the needs of individual learners. ___
___ b. Diagnostic procedures for assigning students to groups are based upon the content to be learned. ___
___ c. Assignments of students to fixed groups are made for short periods of time, e.g., less than a semester. ___
___ d. Heterogeneous grouping rather than homogeneous grouping is used whenever possible. ___
___ e. Other evidence:______________________________________ ___
____

____3. TEACHERS PREPARE STUDENTS FOR INDEPENDENT INQUIRY AND STUDY. 3.____

___ a. Teachers dignose students' ability to do independent work. ___
___ b. Teachers evaluate and discuss, as a regular part of instructional management activitives, the students' ability to work independently. ___
___ c. Teachers indicate what the outcome or end product of individualized work will be. ___
___ d. Teachers help students anticipate and solve problems they will face when working independently. ___
___ e. Teachers help students decide which resources will be needed for independent work and monitor student timelines. ___
___ f. Students are encouraged to work independently or with others with a minimum of direct adult supervision. ___
___ g. Other evidence:______________________________________ ___
____

____4. THERE IS WIDESPREAD SUPPORT FROM THE SCHOOL STAFF, PARENTS AND STUDENTS REGARDING THE SCHOOL'S NORMS FOR STUDENT BEHAVIOR. 4.____

___ a. Students receive consistent feedback from administrators and staff on what is acceptable behavior in this school. ___
___ b. The principal, staff and other revelant parties have developed a coherent discipline policy. ___
___ c. Students help reinforce compliance on the part of their peers with school norms of behavior. ___
___ d. The staff takes an active role in consistently enforcing agreed upon discipline policies throughout the school. ___
___ e. Other evidence:______________________________________ ___
____

WHAT IS IMPACT POTENTIAL

____5. TEACHERS HAVE AND USE A VARIETY OF DISCIPLINE STRATEGIES FOR MANAGING DISRUPTIVE STUDENTS. 5.____

___ a. Discipline in the instructional setting is unobtrusive, with quiet reprimands rather than shouting, with a focus on good behavior rather than disruptive acts, but with swift action to deal with disruption when this is necessary. ___

___ b. Teachers routinely plan for misbehaviors by defining the behaviors they want to stop, keeping logs of disruptions, and accepting successive approximations of the behavior they want rather than expecting instant perfection. ___

___ c. Teachers make it clear that it is the student's behavior, not the student, which is unacceptable. ___

___ d. Students demonstrating severe behavior disorientation are the focus of specific plans for improvement involving the student, members of the staff and parents. ___

___ e. Other evidence:______________________________ ___

____

_____Average score for Organization and Management of the Instructional Setting_____

INDICATORS OF QUALITY SCHOOLS

10. INSTRUCTIONAL EFFECTIVENESS

The quality of instruction is enhanced when teachers utilize high levels of engaged time and student-teacher interaction as major instructional modes. The kinds of reinforcement patterns used by the teachers and the level of competition among students are likewise keys to effective instruction.

WHAT IS

The extent to which this practice/condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

WHAT IS | IMPACT POTENTIAL

___ 1. TEACHERS CREATE AN ENVIRONMENT THAT MODELS HIGH LEARNING EXPECTATIONS. 1.___

___ a. Teachers model high learning expectations by starting sessions on time and continuing with planned activity until the end of the period. ___

___ b. Teachers model high learning expectations about the use of instructional time by not spending unnecessary time distributing resources or organizing materials after the students are assembled. ___

___ c. Teachers are efficient in making assignments and allocating materials during instruction. ___

___ d. Appropriate homework assignments are made and teachers emphasize the need to effectively complete all such work. ___

___ e. Teachers have a uniform policy, clear to both students and parents, for defining homework expectations. ___

___ f. Teachers provide prompt feedback to students regarding the quality of homework and work accomplished in school. ___

___ g. Teachers communicate explicit objectives of the course content in a manner which allows students to monitor their own progress. ___

___ h. Teachers make subject matter relevant, thus motivating students to learn. ___

___ i. Other evidence:______________________________ ___

____

WHAT IS		IMPACT POTENTIAL
____2.	TEACHERS CHOOSE INSTRUCTIONAL ACTIVITIES WHICH PROVIDE GREATER AMOUNTS OF TIME FOR STUDENT-TEACHER INTERACTION.	2.____
___	a. Learning activities in this school demand active student participation.	___
___	b. The predominant amount of instructional time is spent on student-teacher interaction with high engaged time, not in doing individual seatwork assignments.	___
___	c. Teachers believe and practice the principle that if students, especially low achievers, are more involved with student-teacher interaction, greater achievement occurs.	___
___	d. Other evidence:____________________	___
____3.	TEACHERS USE APPROPRIATE DISCUSSION TECHNIQUES TO PROMOTE HIGH SUCCESS AND ACHIEVEMENT LEVELS FOR ALL STUDENTS.	3.____
___	a. Teachers constantly monitor instruction so all students are included during discussion and review.	___
___	b. During discussions and reviews, teachers call on individual students by name rather than soliciting responses from volunteers only.	___
___	c. Teachers ask questions at a level where the student addressed is challenged yet likely to be successful.	___
___	d. If a student gives an incorrect response, the teacher stays with the student and rephrases the question or gives a clue so the student can succeed.	___
___	e. Teachers respond to incorrect answers in a manner that does not demean the student.	___
___	f. Teachers provide immediate feedback to student responses.	___
___	g. Teachers ask questions that encourage productive, divergent thinking abilities of the students.	___
___	h. Other evidence:____________________	___

____Average score for Instructional Effectiveness____

Colorado Department of Education
May, 1982

INDICATORS OF QUALITY SCHOOLS

11. PARENT AND COMMUNITY INVOLVEMENT

When parents show a strong interest in their child's schooling, they promote the development of attitudes that are key to achievement. The different roles parents can play are important, and the more comprehensive and longer lasting the parent involvement is the greater the impact on their child's learning and on the quality of the school's program.

WHAT IS

The extent to which this practice/condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

WHAT IS — IMPACT POTENTIAL

____1. PARENTS OF OUR STUDENTS WORK WITH THEM AT HOME IN SUPPORT OF THE SCHOOL'S PROGRAM. 1.____

___ a. Teachers organize materials and provide instructions to parents for their use in improving their child's performance. ___
___ b. Parent training programs are offered in the school which teach parents how to assist in their child's learning. ___
___ c. Teachers inform parents of their child's educational progress and indicate areas where improvment may be needed. ___
___ d. Programs exist in which some school staff go to students' homes. ___
___ e. Other evidence:________________________________ ___

____2. THERE IS A STRONG PROGRAM OF PARENT SUPPORT AND PARTICIPATION IN THE SCHOOL. 2.____

___ a. Many teachers use parent volunteers in the instructional setting. ___
___ b. Parents are involved in decision-reaching through advisory and accountability committees. ___
___ c. Parents are actively involved in working on school improvement tasks with staff and students. ___
___ d. Policies or procedures exist which encourage teachers to seek parent support for their child's education. ___
___ e. Teachers and principals make parents feel welcome at the school by being accessible and responsive to them. ___
___ f. Other evidence:________________________________ ___

PARENT AND COMMUNITY INVOLVEMENT (Cont.)

WHAT IS IMPACT POTENTIAL

___3. THE COMMUNITY AS A WHOLE INCLUDING BUSINESS, OTHER INSTITUTIONS AND CITIZENS WITHOUT CHILDREN IN THE SCHOOL, IS INVOLVED IN SUPPORTING THE SCHOOL. 3.___

___ a. The school sends students into community settings to gain a variety of experiences. ___
___ b. Community people are invited into the school to give presentations. ___
___ c. Citizens participate in planning for school improvement. ___
___ d. Business/education councils or adopt-a-school programs exist. ___
___ e. Community participation at school events is good. ___
___ f. Other evidence:______________________________ ___
____

___Average score for Parent and Community Involvement___

Colorado Department of Education
May, 1982

INDICATORS OF QUALITY SCHOOLS

12. ACCOUNTABILITY/ACCREDITATION/PLANNING PROCESS

Effective schools do not simply "happen". Effective schools are the result of thoughtful planning by those who are most directly involved in decisions that are reached and who take ownership for the products resulting from the planning process. Quality student outcomes, quality leadership and effective instructional practices are significant products coming from the use of a well-defined accountability/accreditation/planning process.

WHAT IS

The extent to which this practice/condition is present in your school.

0 = Is not present

1 = It is just beginning. It operates only on a very limited basis

2 = It is present and operating but only in certain programs or departments

3 = It is present and operating well on a school-wide basis

IMPACT POTENTIAL

The extent to which human and/or material resources invested in the implementation of this practice/condition is positively impacting or could positively impact the effectiveness of your school.

0 = No impact potential for school effectiveness

1 = Very limited impact potential

2 = Some impact potential

3 = Very positive impact potential for school effectiveness

WHAT IS — IMPACT POTENTIAL

___1. THE SCHOOL AND DISTRICT HAVE ASSESSED THEIR NEEDS AND STRENGTHS AND IDENTIFIED PRIORITIES FOR SCHOOL IMPROVEMENT. 1.___

- ___ a. A plan for assessing community and school feelings on program strengths and needs exists and is used at the district level. ___
- ___ b. A plan for assessing community and school feelings on program strengths and needs exists and is used when appropriate at the individual school level. ___
- ___ c. Assessment information is used by the school to set improvement priorities. ___
- ___ d. Priority setting occurs at both the district and individual school level.
- ___ e. Individual school priorities are used by the Board to help set district priorities. ___
- ___ f. Other evidence:______________________________ ___

___2. PLANS HAVE BEEN DEVELOPED FOR EACH IMPROVEMENT PRIORITY. 2.___

- ___ a. The district has a written action plan for program improvement based on priorities. ___
- ___ b. The school has written plans for program improvement based on the district's and school's priorities. ___
- ___ c. The school's action plan identifies anticipated results in program improvement as they are implemented. ___
- ___ d. A linkage of priorities exists between the individual school's and the district's plans. ___
- ___ e. Other evidence:______________________________ ___

WHAT IS IMPACT POTENTIAL

____3. IMPROVEMENT PROGRAMS AND INSTRUCTIONAL PROGRAMS ARE IMPLEMENTED, EVALUATED AND MODIFIED. 3.____

a. The written improvement plans are being implemented in this school ___

b. Information resulting from the activities in the individual school action plans are used to modify or update those plans. ___

c. The district has a written program evaluation procedure which is used in the plan for program improvement. ___

d. The school has a written program evaluation procedure which is used in the improvement process. ___

e. Student outcome results and program improvement results are used where most appropriate for modification of programs. ___

f. Other evidence:____ ___

____

____4. EFFECTIVE COMMUNICATIONS EXIST TO REPORT STUDENT OUTCOMES AND IMPROVEMENT EFFORTS TO THE STAFF AND PUBLIC. 4.____

a. School leaders sponsor activities such as open meetings, news releases etc., to inform parents and other community persons of the school's and district's priorities. ___

b. A procedure for reporting on the progress of the school's plan for improvement exists and is used. Reporting is both formal and informal. ___

c. Student achievement of learner goals is reported to the staff, students, parents and public. ___

d. The staff is knowledgeable about the school's and district's priorities. The staff can describe what it is doing to support priorities and can give results that occurred or are anticipated in program improvement. ___

e. Other evidence:____ ___

____

____Average Score for Accountability/Accreditation/Planning____

Colorado Department of Education
May, 1982